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ABSTRACT

This report describes the nature and ramifications of the employment problem in developing nations and presents the available empirical evidence. In addition to discussions of unemployment and the structure of employment, the report includes an analysis of the interrelationships between income distribution, nutrition, and productivity of the labor force. Employment trends in both industrial and agricultural sectors are projected, and the problem of collecting accurate data in developing countries is discussed. (BH)

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DEVELOPMENT CENTRE STUDIES

EMPLOYMENT SERIES: N° 1

THE EMPLOYMENT PROBLEM IN LESS DEVELOPED COUNTRIES

A REVIEW OF EVIDENCE

by
David Turnham
assisted by
Ingelies Jaeger

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OF THE ORGANISATION
FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
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AUTHORS' PREFACE

This is the first in a series of studies initiated by the Development Centre about the employment problem in less developed countries. The study attempts to describe the nature and ramifications of the problem, and gathers together as much empirical evidence as could be obtained.

The merits of the various policies which might be used to tackle the problems are the subject of later studies in the series and are not discussed in this volume. Nevertheless, the assessment and interpretation of evidence presented here, if carried a stage further, would imply certain particular directions for policy. It is fair to point out that where evidence is as meagre and unsatisfactory as is the case for employment in less developed countries, the element of judgement involved in deriving such conclusions is uncomfortably large. Certainly, very much empirical work remains to be done before anything like settled conclusions or even systematic appraisal can be hoped for.

Miss Jaeger worked continuously on the project from the beginning and was, in particular, responsible for all the research into the issues of nutrition and working efficiency, nutrition and income, and the historical experience of employment problems in the now developed countries.

We have taken advice and received information from a great many people most of whom, as always, must remain nameless or figure only in the Bibliography. But we are grateful in particular to Professor Elliot Berg of Michigan University and to Maurice Scott of Nuffield College, Oxford, for extensive and very useful comments on an earlier draft of the paper. We also learnt much on visits to the International Labour Office in Geneva and to the United Nations Food and Agricultural Organisation in Rome, both from the officials who gave up valuable time to discuss the problems with us and as a result of the extensive library facilities we were afforded there.

Within the Centre, our thanks are due to Dr. Montague Yudelman, the Vice President, and to Dr. Friedrich Kahnert, Head of the Research Division, for advice and guidance, for continuous encouragement and, in the later stages, for considerable patience. We have also benefited considerably from day do day discussion with colleagues, especially Peter Richards and Gavan Butler ; the latter read the final draft and his comments and suggestions materially improved and sharpened the structure of the argument.

Neither individuals nor organisations are of course responsible for the opinions expressed or for any factual errors, all of which remain the sole responsibility of the authors.

Chapter I

A GENERAL OVERVIEW OF THE PROBLEM[1]

The New Concern about the Employment Problem

Until recently problems of low labour utilisation and low earnings have not been among the central pre-occupations of either economists and planners or the governments (including aid donors) whom they advise. Under-employment and inadequate incomes were held to come about simply because, *ex definitione,* less developed countries are poor in reproducible factors of production, in skills and in technical know-how. Once the process of growth is begun, once wealth, capital and knowledge increase and as education and businesslike thinking spread, so employment opportunities would begin to improve. Thus calculations of surplus labour with which an earlier literature concerned itself were often used to show how the need for additional manpower in the developing modern sector could be met. Today, the more likely question would be whether productive ways to absorb the surplus can be found.

The change in attitude towards the problem can be explained by growing knowledge about a number of disquieting trends in developing countries of which perhaps five are particularly relevant. Taken together they suggest, as we shall try to document in more detail later, that there are substantial and increasing numbers of people available for work who are unable to maintain an adequate living standard on the basis of the employment opportunities open to them. We shall briefly summarise this new knowledge about the situation.

Growth in labour force

First, and most important, is a current and prospective growth in labour force which is really massive by the standards of recent world history or in comparison with the sorts of increases being experienced in the now developed countries. Taking all less developed countries together, we can fairly confidently expect not less than 25 per cent growth in numbers wanting work between 1970 and 1980, while the corresponding figure for developed countries is only about 10 per cent. This consequence of the population explosion is with us for a long time to come since any lowering of birth rates now does not begin to affect the number of new entrants until some 12 to 15 years later. Indeed, for an increasing number of countries, employment is emerging as a more serious population problem than the much more widely canvassed question of the adequacy of food supplies.

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1. Note. The figures between square brackets in the text refer to the works listed in the Bibliography.

Employment prospects

Faced with an increase in the demand for work of this order of magnitude, it is quite clear that the growth of jobs in the " modern " sector — especially the core sectors manufacturing and public utility infrastructure — will be quite insufficient to match prospective requirements, as they have been insufficient to match past requirements. By simple arithmetic, a manufacturing sector employing 20 per cent of the labour force would need to increase employment by 15 per cent per annum if only to absorb the *increase* in a total labour force growing at 3 per cent per annum. In addition, because of productivity increase, about 3 per cent growth per annum in output seems needed to maintain a constant labour force in manufacturing. Thus, except in a very few countries, the expansion of manufacturing employment has had no more than a marginal impact on total employment[1].

It is hard to see how some great spurt in modern sector employments could occur in the near future ; indeed, it is not difficult to find reasons for supposing that maintenance of past rates of increase will be hard to achieve.

Income distribution

There is little doubt that a considerable number of potential entrants to the modern sector have, of necessity, been absorbed into stagnant or slow growing sectors — into traditional agriculture and handicraft manufactures and into low productivity service activities. We know very little about the trends effects of this, either on work income or its components, work time and the wage per unit of work time. Nevertheless as more empirical studies of income distribution, underemployment and family consumption become available, it is at least arguable that large groups of people have experienced little or no broad based improvement in standard of living during the recent development period and may even have become worse off, despite recorded increases in real national product per capita of between 20 and 50 per cent for most countries[2]. Even from the narrowest economic point of view, the consequences for work efficiency (mental and physical) of the inadequate diets of the poorest groups merit serious attention, while the standard of living of the low productivity workers in general contrasts markedly with that enjoyed by the more privileged groups of urban workers and employers in the modern sector, to whom most of the benefits of recent growth have accrued.

Unemployment

There are several studies, mainly in the form of sample survey enquiries, which reveal that a very high level of open unemployment already exists, mainly in urban areas, and especially among young people. We shall have more to say about the characteristics of unemployment later ; suffice it here to point out that this formidable body of young and often relatively well educated unemployed forms only the spearhead of a reserve army of low productivity workers in rural and urban areas among whom the waste of human potential is massive.

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1. In some African countries manufacturing employments seem to have been falling.
2. *National Accounts of Less Developed Countries* [1]. For the period 1950-66 regional averages were roughly Africa 30 per cent, Latin America 34 per cent and Asia 44 per cent.

Urbanisation

If the rate of increase in population in many less developed countries merits the description " explosion ", superlatives are lacking to describe the urban growth rate. While most calculations have shaky foundations, the evidence is that " urban areas " in Latin America and Africa are not uncommonly growing twice as fast as the population as a whole and even faster in some of the larger agglomerations. It is hard to say whether the great mass of migrants are better or worse off after the move, but their presence does create demands for urban services which (however desirable on social grounds) can deplete already hard-pressed development budgets. Imbalance between urban and rural human resources is intensified because migrants are often young and motivated people.

Output and Employment

It is obvious that the political and social unrest likely to accompany heavy unemployment or underemployment and extreme inequality in the distribution of income is a threat to the stability of the growing economy. For this reason alone some general re-assessment of policy in the light of these trends is justified, from which more stress on employment creation is a likely outcome[1]. In addition, we would argue that both the size of the problem and its direct connections with major politico-economic development objectives require, in many cases, that the re-assessment be undertaken from the very centre of development strategy. This raises a possibility that conflict between overall output growth and employment creation could arise because labour intensive development may be inefficient. The argument has, in the past, been the main justification for the comparative neglect of the employment issue. If valid, the problem is even more intractable than it would otherwise be since however such a conflict between objectives were resolved, emphasis on employment creation is likely to be greater if it is not growth frustrating. It is important therefore to get the " facts " of the situation correctly assessed.

The following few paragraphs serve only to focus attention on certain important issues in this crucial debate and are not intended as a comprehensive statement and still less as a conclusive one.

Industrialisation policy

On the whole, during the post war period, underdeveloped countries have opted for policies which concentrate efforts on the development of a modern industrial sector to serve the domestic market. Within this sector, often very high rates of growth of output and productivity have been achieved. But it is not surprising, if a lot of capital is used that a lot of output is obtained, nor if capital is applied to relatively limited inputs of labour that productivity growth is high. There is, in fact, quite a lot of evidence (especially relating to low levels of capacity utilisation[2]) suggesting that the rate of return on substantial parts of this investment has been disappointingly low. There is also increasing concern that further development may be

1. It should be pointed out that this assessment process seems now to be going forward at a very rapid rate if the number of research papers and other academic or policy oriented contributions dealing with the subject is any guide.

2. See e.g. the estimates shown in *The Process of Industrialisation in Latin America* [2] and *Industrial Excess Capacity and its Utilisation for Export* [3].

blocked by the exhaustion of the quick possibilities in regard to import substitution on the one hand, and by failure to develop a basis for growth through export markets on the other[1].

It is of course not at all easy to discover how great are the real benefits or the real costs of developing a modern industrial sector. But it is clear that with government help, much investment becomes self justifying because domestic prices can be pushed up when imports are restrained or because favourable tax treatment and low interest rates effectively reduce the investment costs. In these circumstances, the structure of " market " prices may be far removed from the " shadow " prices reflecting social opportunity costs and benefits, hence much output and productivity growth as recorded may be illusory when correction is made for these price distortions[2]. Furthermore, it is worth remembering that modern industry outputs not only substitute for imports but often for domestic outputs produced in the traditional sector using a lot of labour[3] ; the advantages and encouragements have by no means been available to all firms or sectors of industry.

Policies (or sometimes the lack of them) concerning wages have also been important in explaining why employment grows so slowly in the modern sector. High and rising real wages for favoured groups seems quite common in less developed countries despite general labour surplus. While some causes of this can indirectly be attributed to policies which promote capital intensive industry, generous government wage scales have set the tone in some countries and " fair wage " policies, including the accretion of western style fringe benefits, have also been encouraged, not least by the international organisations. By attracting more labour than can be used, high wages directly add to the open unemployment problem and to the urbanisation problem.

Pointing out the policy mistakes of the past provides grounds for a degree of optimism about the future since policies can be changed and change could improve the situation. But many policies once established are difficult to reverse and even if reversed may not be very quick acting. Thus improving the existing price structure in line with social cost/benefit principles is not easy given an initial high cost industrial base and the quick alternatives — extensive tax/subsidy schemes or more direct forms of administrative control — have their own inefficiencies. But even with employment growing fast in the modern sector, the impact on the whole economy tends to be small because such employments account for a small proportion of total employment. Perhaps the most important consideration is that less emphasis on industry as a whole and more on agriculture might have resulted in more favourable overall trends, in output growth as well as in employment growth.

Production techniques and technical change

Since most new techniques are invented in developed countries where unskilled labour is relatively expensive, it is often argued that they tend not

1. Questions of this kind are central to the studies on Industrialisation and Trade of the Development Centre and are extensively discussed in the general volume of the series by Little, Scitovsky and Scott [4].
2. The methodology of social cost-benefit analysis in application to industry in developing countries is discussed extensively in Little and Mirrlees [5].
3. Marsden [6] describes a number of case histories.

to be well suited for developing countries where labour is cheap. Also, because most developed countries are reasonably large in population and income, and because trading is extensive, new techniques tend to embody an optimal scale of operation which is large in relation to the capacity of markets available to less developed countries. Hence the famous technological gap — primitive, labour intensive techniques mainly for basic wage goods and agricultural commodities at one end of the spectrum, modern, large scale, capital intensive techniques at the other end, and very little in between.

Whether the bias toward labour saving in technology actually creates unemployment depends partly on factor price rigidities, but in any event, employment creation in both modern and traditional sectors would undoubtedly be easier if technical progress could be pushed in labour intensive directions[1]. Thus while the main effect of capital biased technical progress in developed countries is to offset a tendency for the returns to capital to fall as accumulation proceeds, in developing countries, where capital is anyway scarce and labour supplies growing rapidly, it rather intensifies a tendency toward inequality in income distribution between capital and labour.

There are, in principle, two kinds of constructive response to this situation — adaptation of the technology to fit the factor endowment or changing the endowment to fit the technology. Less developed countries in general have overwhelmingly favoured the second rather than the first course, not least through human capital augmentation using educational programmes designed (if not always well designed) to develop the vocational skills needed for " modern " activities[2]. While probably no one would question the wisdom of heavy investment in education, more should almost certainly be spent than is now the case on the search for intermediate technologies and the like[3], whose potential benefits are vividly demonstrated by recent developments in the agricultural sector.

Income inequality and savings

An important part of an employment geared development programme is likely to consist of measures which would " improve " the distribution of income. Neglect of income inequality problems is sometimes justified on grounds that the rich save proportionately more of their income than do the poor, so that a higher aggregate saving income ratio is achieved where few people receive most income and most people very little income. It is also held that big profits for large scale producers provide both means and incentive in encouraging re-investment. Possibly, therefore, policies to pro-

1. Particular examples in which capital-intensive techniques are unambiguously more efficient than labour intensive techniques can readily be found (i.e. where the labour intensive technique uses more capital per unit of output than does the capital intensive technique). But it is not clear how widespread or important these cases are at whole economy level. If capital and labour are ***both*** released by modernising a particular process they can be used together in some other activity.

2. One cannot but be struck by the enormous literature dealing with " manpower planning ", or manpower ***development***, as compared with what little has been done relating to manpower *utilisation*.

3. Some estimates of research and development expenditure, by Mr. Charles Cooper, are reported in Singer [7]. According to these estimates, only 2 per cent of world research expenditure (excluding Sino-Soviet countries) takes place in less developed countries.

mote a better distribution of income could reduce growth by cutting back savings.

It must be conceded that this argument has some truth in it ; undistributed corporate profits are a very important source of savings and low income earners in aggregate appear to save very little. On the other hand, there are very few usable statistics, some understatement of both savings and investments at low income levels seems likely, and the few attempts to analyse savings behaviour tend to suggest rather high marginal propensities to save among some low income groups like small farmers. Some countries do seem to be able to combine relatively equal distribution of income and relatively high personal savings, Taiwan and Japan being two examples[1]. Perhaps the truth is that without more reliable and more detailed statistics of savings it is difficult to provide much firm evidence for any hypothesis about savings behaviour in less developed countries[2].

But even if it were certain that less savings would be generated if income were to be more equally distributed, it does not follow that growth is faster unless the savings are efficiently used. Savings and investment are closely linked activities where financial intermediaries are absent or highly undeveloped. Thus savings of rich households are often realised in forms which do not add much to productive capacity — like luxury housing and foreign assets, while the re-investment of the large corporations may only be forthcoming where additional doses of protection permit an extension of high profits for sometimes economically dubious activities. In sum, the savings argument for inequality would be stronger if there existed efficient financial institutions and markets to ensure that savings were well used. In this circumstance, however, savings at lower income levels might also be forthcoming in greater amounts.

Finally, consumption patterns under extreme income inequality while in some ways labour intensive — a lot of domestic servants are employed — and while yielding government revenue from indirect taxation of luxury items, tend also to be biased towards relatively sophisticated often capital and import intensive goods. Disproportionately large amounts of foreign exchange and capital may be tied up in satisfying these demands. In contrast, the consumption levels of the very poor in a number of countries are so low as to justify considerable concern that food and other necessities may be insufficient to provide the needs for efficient working. Certain types of malnutrition affecting children in poor households can also have long term effects on mental and physical development which may be irreversible for those who suffer them[3]. Consumption as well as investment can increase the capacity to produce.

In short, we believe that the onus of proof is on those who would argue that marked inequality generates high growth ; that the social and economic side effects of marked inequality are negative seems fairly clear.

None of these arguments, however, serve to contradict a belief that

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1. See Oshima [8]. Oshima makes the point that more equal income might help reduce personal *dissavings* at low income levels.

2. Recent controversies about savings behaviour in developed countries are of some relevance in this context; in particular the series of powerful attacks on the hypothesis that the average propensity to save systematically increases with increasing income.

3. Available evidence about malnutrition is considered in some detail in Chapter III. Adequate income is of course a necessary and not a sufficient condition for adequate nutrition, but the available evidence suggests that the connection is fairly close.

the marginal product of labour at full employment would be very low in most countries or, given the capital resources available, that the marginal product of labour will increase only very slowly at 3 per cent growth per annum in labour force. With the best of policies, nobly administered, some countries have so little good land and capital in relation to population resources that the scope for improvement in earnings and employment is strictly limited, at least in the short run.

Employment, Unemployment and Earnings

In this final section of the chapter we attempt to draw out some points emerging from the detailed examination of labour market conditions in less developed countries which seem particularly important both as indicating the types of approach to the problem likely to be most fruitful and in helping to define appropriate criteria by which the success of policies might be assessed. Let us state at once however that much of what follows is based on such scanty and unreliable evidence that we have been led to a conviction that nothing is more important at the present time for deriving the sensible conceptualisations which are the foundation of good policy than a major effort to gather more data. We still know almost nothing about the trend and little enough about the level of such magnitudes as unemployment and poverty and will continue to know nothing for a number of important countries unless systematic enquiry is begun now.

Initial conditions

It is well known that the concepts of labour force and therefore of employment and unemployment are difficult to apply in less developed countries. In consequence important analytical constructs like the participation rate and the rate of unemployment are highly sensitive to seemingly trivial or arbitrary differences in measurement procedures[1]. In practice, for males the main problem is the fundamental distinction between employment and unemployment (since nearly all adult males are in the labour force) ; for females, it is whether or not to include the large group in mainly rural areas whose economic activities are essentially sporadic and whose domestic activities often include the provision of services which in more advanced communities are purchased (like making clothes and basic processing of foodstuffs). There are no easy solutions to these problems, apart from abitrary ones. Sophisticated approaches, such as detailed studies of manpower time, tend to use up a lot of scarce resources.

Two more fundamental features are behind many of these difficulties. First, a lot of economic activity is organised in family (or extended family) production units within which the sorts of rigid demarcation between work time and leisure time which help to define unemployment and employment are not observed and where it is natural for share alike to apply to work as well as to income. In this context, sporadic and partial often describe the work of men as well as women and income generating activities can involve all except the very youngest children in some degree.

1. By the participation rate is meant the ratio of persons at work or seeking work of a given population group to the total population of the group. Similarly, the unemployment rate is the ratio of persons seeking work to those seeking work or at work. These definitions and others are considered in more detail later in the book.

A second important feature is that real earnings tend to respond quickly to market pressures especially outside the relatively small (through growing) organised and mainly urban sector of the labour market. This is partly because of the sheer weight of small scale self employments in agriculture, traditional manufactures and services and partly because established wage differentials based on formal (certificated) skills apply to very small groups so that there is typically a large pool of labour which the market treats as unskilled.

An important contributory factor is that most workers lack the financial reserves which make possible an extended period of waiting for the " right " job (social security covering only a tiny fraction of the population) even if qualified by experience to pursue it. In the circumstances of many less developed countries, for the family breadwinner to be without work for an extended period is a major disaster which somehow has to be avoided ; often any type of work is better than none. It is thus to be expected that short or long term variations in the demand for labour relative to supply would result in changes in earnings as well as changes in the level of employment. In the process, complex repercussions on the rates of participation and unemployment occur which are difficult to unravel.

Unemployment

These considerations suggest that the employment problem in less developed countries cannot just be identified with an unemployment problem. Although rates of unemployment are often extraordinarily high, as important, probably more important, is the situation of employed groups who earn and consume very little because their productivity is so low. Conventional procedures for measuring unemployment, based usually on concepts deriving from Keynesian " involuntary " traditions produce statistical estimates which are therefore misleading in relation to the overall " size " of the employment problem. Sometimes such measures serve mainly to identify important but special groups in the labour force to whom immediate needs for some income generating occupation are less imperative than is generally the case[1]. Thus differences between countries or regions in the level of unemployment so measured are not good indicators of differences in the overall magnitude of the employment problem.

We might expect unemployment to be a more accurate reflection of the state of the labour market in countries and areas where the structure of labour markets is relatively more developed. To some extent this is supported by factual evidence. For example, the structure of unemployment in the relatively developed countries like Argentina and Chile seems much more like that of developed countries proper than is the case for very poor countries like India and almost invariably for particular countries, unemployment is much higher in the richer urban areas than it is in rural areas. But it is difficult to get much beyond this sort of broad statement for want of sufficient data on unemployment (especially in Africa and Latin America). In Chapter II a good deal of evidence is assembled suggesting considerable differences in labour market structure from one country to another, so over-generalisation from too few cases is a real danger.

1. In the case of females particularly, unemployment may also be understated because available earnings opportunities are so meagre as to discourage any attempt to seek work outside the home.

However, notwithstanding statistical and other problems, there is a surprising degree of uniformity in the findings of surveys dealing with urban open unemployment. Usually, in cities like Bombay, Lagos, Singapore or Curaçao a high proportion of those unemployed are young, relatively well educated (and seeking non-manual work), have little or no work experience and are dependents rather than heads of household. Thus the unemployed, as we might expect on the basis of our previous arguments, are to a considerable extent drawn from groups with relatively strong claims on others[1]. In Africa the problem of unemployed youth is particularly serious partly because the traditions of the extended family or tribal group are powerful, so widening the support base to be drawn upon, but in Asia and Latin America too unemployment is often mainly a problem among young people. Our findings suggest, therefore, that beside straightforward aggregative differences between supply and demand which occupy the centre stage in developed country analysis, factors like differences in current and prospective (or expected) earnings between modern and traditional sectors, job aspirations and education, may also exert an important impact on the level of unemployment.

Underemployment

We have already argued that part of the problem in measuring unemployment, especially in rural areas, arises because there is no sharp distinction between work and leisure ; a lot of people have no work for part of the time and do not actively seek extra work even through they might accept it if it were offered. A somewhat similar phenomenon, also difficult to measure, is disguised or invisible underemployment, which occurs where people are technically at work but virtually idle. This may happen in traditional agriculture or handicraft industry because being at the work place is almost the same thing as being at home and it happens in the urban service sector because it is of the essence of these occupations that the workers has to be " on the job " — at the street corner, in the shop, at the taxi rank — whether or not there is work to be done.

Thus it is perhaps not surprising to find an element of conflict between the widely held belief based on direct observation that there exists substantial underemployment in less developed countries and the evidence provided by the sample survey enquiries. These suggest rather that hours worked even in rural areas (though the evidence here is very thin) are long and that the quantum of underemployment in the sense of extra hours work sought is not very great absolutely and certainly much less than open unemployment. Average hours worked among the employed population are usually around 45 to 50 per week, with a large fraction working 60 hours per week and more.

The surplus labour approach to the measurement problem

There is an alternative approach to the underemployment problem which attempts to avoid many of the difficulties implicit in simple sampling procedures. This, the *surplus labour* approach has a long history particularly in the theoretical literature and especially in relation to traditional

1. It should be pointed out that while the surveys often provide information on such matters as age, sex, marital status, education, etc., next to nothing of a direct nature is known about the social background of the young unemployed or the incomes of the families who support them.

agriculture to which most empirical applications of the approach have been confined.

Basically, these methods (there are more than one of them) involve comparisons between numbers of " men " (or in more precise applications, man days or man hours) available for work and the amount of work which needs to be done to produce the output which is in fact produced. Where men available exceeds work available the difference defines the labour surplus. It is perhaps reasonably clear that some data on labour force and, for example, labour inputs for various activities, can provide a basis for rough estimates of this kind where most other information is lacking. This is one justification of the method quite apart from deficiencies of sample methods. However, the statistical requirements for estimates of surplus having any claim to precision should not be understated[1].

But if the methods are to take account of more than a simple discrepancy between work time used and work time available (which in any event could be assessed more accurately from well conducted sample surveys taken over the course of the entire agricultural calendar), it is necessary to go beyond what time is actually spent at work to the amount of work required from men working efficiently. This implies the application of some notional productivity yardstick by which to judge the effectiveness of existing labour utilisation. The problem here is not so much that such yardsticks are difficult to construct as that there are a large number to choose from. Improvement in labour usage is an open-ended process. One can begin from some simple change in culitvation techniques or land utilisation (for example, consolidation of land holdings), right through to changes which give farmers access to the technology and range of inputs used in developed countries. Clearly nonsensically large labour surpluses can be generated by supposing existing outputs to be produced at developed country levels of productivity. But even a progression from " simple " organisational reforms through to extensive application of capital intensive farming methods is not straightforward to establish[2]. In many countries it may be operationally simpler to raise productivity by providing large farms with tractors and fertiliser than to get peasants to consolidate their holdings or abandon inefficient techniques. For these sorts of reason it is easy to see why the extent of surplus labour has remained highly controversial and why professional opinion continues to differ about its extent.

Our conclusion is that surplus labour measures are not an effective replacement for sampling procedures and, more important, that such measures do not provide adequate yardsticks by which to judge the success of employment policies.

The income approach to measurement

Where hidden or disguised unemployment is extensive, a somewhat more hopeful approach in the long term to measuring the size of the em-

1. Since surplus is defined as a difference between two magnitudes it is highly sensitive to the assumptions underlying the estimation of these magnitudes. For example, where initially a labour surplus of 20 per cent is estimated, writing up labour available by 10 per cent will increase the surplus by 50 per cent.

2. See Myrdal [9] for extensive discussion of these points in the Asian context (especially Volume 2, Chapter 22). A detailed development of the argument related to an African background is given by Reynaud [10].

ployment problem and degree of progress towards its solution is, we believe, offered by an emphasis on poverty. Poverty and the circumstances in which it arises would be identified from information derived mainly but not solely from sample surveys relating to expenditure, income and the manner in which income is derived. Sample enquiries could, for example, focus on the economic circumstances of potential or actual full time workers with earnings below some reference level — say one third or less of average full time earnings of the employed population (or relevant segment of it). The enquiry would thus encompass the unemployed as well as the underemployed[1].

The approach recommends itself for a number of reasons :

a) Low productivity is more widespread than measurable unemployment as such and is likely to constitute at least as serious a waste of resources.

b) From the social point of view as well, we know very little about the relative poverty of the unemployed and low productivity workers. It may well be that many low productivity workers are just as badly off as the unemployed sons of middle income families seeking comparatively well paid jobs in the modern sector.

c) Appraisal through poverty measurement directs attention to low productivity working from whatever cause, and takes account of situations in which hours worked are long as well as those where hours are short or zero. The approach also avoids too heavy a reliance on constructs like labour force, employment and unemployment which as we have indicated are often dubious.

d) Lastly, income differences would seem to provide a reasonable and objective basis for distinctions between occupations which are " marginal " and those which are not. At the present time, much talk about " marginal " activities " non-employment " and the like lacks conviction for want of a conceptual basis.

More generally, we believe that such an approach might help to correct a tendency we detect in some current discussions to put too much emphasis on unemployment aspects of the problem. Lest we be accused of understatement on this issue, let us emphasise our belief that open unemployment is very important ; it concerns young people who are at the stage of acquiring good habits of work discipline and motivation and in whom society has invested substantial scarce resources ; the unemployed in developing as well as in developed countries do react quickly to their situation and are therefore a sharp focus for urban discontent ; and for the unemployed who cannot rely on others being without work is the worst type of poverty situation. Certainly we do not advocate that enquiry into open unemployment should be abandoned but rather that such enquiry (as part of the poverty survey) should be undertaken more widely than at present. Of course, some people use " unemployment " to refer to a much broader spectrum of situations than is uncovered in the usual sort of labour force survey. But in our view there is something to be said for adhering to the narrower and familiar conventions of definition both to avoid ambiguity and to emphasise differences in situation which are sufficiently great to be worth distinguishing.

While unemployment is important, we do not believe that the main

1. Though since " underemployment " is liable to misinterpretation many " underemployed " workers may be employed for sixty hours a week ! — some alternative description might be preferred.

effect of the continuation of the trends outlined in the first section will be a dramatic increase in rates of unemployment, though a considerable increase is likely to occur[1]. Rather, we would argue that the most likely general consequence of an intensifying employment problem will be a further twist in the already highly skewed income distributions with possibly some absolute deterioration in standard of living among the poorest groups and certainly not much prospect for improvement.

It is this last possibility which leads us to put particular emphasis on poverty measurement. We believe that there is a need to focus on the likelihood of a widening gap in absolute and probably in relative levels of income, between the upper level of income earners (whose future prospects are increasingly tied to income levels and growth in developed countries) and income earners at the tail of the distribution. An income of $ 1,000 growing at 6 per cent per annum increases to $ 3,207 after twenty years while an income of $ 200 growing at 2 per cent compounds to only $ 297 over a similar period ; the gap in absolute terms widens from $ 800 to $ 2,910 and the ratio of high to low income increases from 5 to 10. It is hard to believe that trends of this kind could long persist in a modern developing economy without a breakdown of the systems which produce them. Whether such trends are or have been in operation, however, is virtually impossible to determine on the basis of information available at the present time ; even such basic magnitudes as the calorific and protein equivalent of the foods consumed at low income levels remain shrouded in mystery.

Advocacy of a poverty approach to the employment problem should not be taken to imply that simple resource transfers would necessarily play a large part in possible policy solutions[2], or indeed that high incomes need to be reduced if poverty targets are adopted. More important is how the increment to income generated in the growth process gets distributed. Again simple artihmetic may be helpful. Suppose average per capita income to be growing at 2 per cent per annum and that the lowest 20 per cent of families receive 6 per cent of total household income (the figures are not altogether unrealistic). If half the total increase in per capita income is devoted to improving the income situation of the lowest 20 per cent, the arithmetic tells us that incomes among this group can rise at 15 per cent per annum or, equivalently, could be doubled in five years.

Whether measurable unemployment or low income is taken as the fundamental correlative of the employment problem, policy solutions will undoubtedly call for employment creation on a massive scale. As was argued earlier in the chapter, existing evidence (which is not saying a great deal) is certainly not so clear cut as to warrant a conclusion that such policies would necessarily lower the overall growth rate, and indeed we may reasonably hope that employment, output and the distribution of output could be increased and improved simultaneously.

But it may be that the scope for simultaneously increasing growth rates and improving employment opportunities will turn out to be modest and it is easy to see how ill-conceived or half-hearted policies would be ineffectual

1. Not least because widening income gaps are themselves likely to aggravate the problem of unemployed youth.

2. Though in many countries such transfers are important particularly where the distribution of the ownership of agricultural land is highly skewed.

81
20
19

if not positively harmful. Nevertheless, the political and social consequences of failing to grapple with the problem are likely to slow up growth as well. Political scientists, however, are noticeably cautious in tracing direct connections between economic conditions and social or political upheaval. Perhaps the most important point is that growth which leaves substantial sections of the population little better off than before seems anyway a doubtful objective to pursue. Fast growth may be a necessary condition for development but that it is not a sufficient condition is becoming increasingly clear.

Chapter II

LABOUR FORCE AND THE STRUCTURE OF EMPLOYMENT IN LESS DEVELOPED COUNTRIES

In this chapter we examine prospects for growth in the labour force and recent changes in the structure of activity, which were two of the important features noted at the beginning of the last chapter. We begin with an appreciation of the situation now existing, giving some attention to statistical and conceptual difficulties. Because of these difficulties available evidence needs to be interpreted with considerable reserve.

Labour Force and Population

Participation rates

Size of population is the first and most important determinant of the size of the labour force[1], but the relation between population and labour force, the coefficient known as the participation or activity rate, can vary considerably — in practice, from about one quarter up to around one half. Thus a country with low participation can have a labour force only as big as a country with half the population[2].

While crude participation rates, which apply to the whole populations, can differ for a variety of reasons, much the most important arise from differences in age structure and, to a lesser extent, from differences in measured female participation. Table 1 indicates differences between developed and developing countries in these respects.

Thus for males the overall participation rate in developing countries would be significantly higher than for developed countries were the age structure not so heavily tilted toward young age groups[3] and for females this effect of age structure is reinforced by a tendency toward lower participation among the age group 15-24 which is not offset by higher participation among other groups. While for males (with some qualifications in respect of the 15-24 age group), there are no great divergencies at the national or regional level from the averages of Table 1, for females such differences can be very considerable. Two extreme cases are shown in Table 2.

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1. According to the most complete estimates, the labour force of less developed countries, at nearly 600 million, is about twice as big as in the non-communist developed countries. See Ypsilantis [1].

2. For example, Algeria, with a population of 11.8 million in 1966 had a labour force of only 2.6 million while Ghana in 1960 counted 2.7 million workers in a population of only 6.3 million.

3. About 42 per cent of the population are less than 15 years old in developing countries, compared with 25 per cent in Europe and 31 per cent in North America. See *World Population Prospects*, UN [2].

TABLE II.1. AGE AND SEX SPECIFIC PARTICIPATION RATE DATA ESTIMATES FOR 1965

Percentage rates.

Age Group	Males		Females	
	Less Developed Countries	Developed Countries	Less Developed Countries	Developed Countries
0-14	6.5	1.3	4.0	0.8
15-24	78.1	70.2	36.9	47.8
25-54	96.3	96.1	40.1	40.3
55-64	86.8	82.6	29.2	30.1
65 +	57.5	30.0	14.5	9.2
Total	53.2	58.3	22.9	26.8

Source : Ypsilantis [1].

NOTE. " Less developed countries " exclude Sino-Soviet countries, OECD countries and Southern Africa, Australia and New Zealand. Developed countries exclude Sino-Soviet countries.

TABLE II.2. FEMALE PARTICIPATION RATES WEST AFRICA AND NORTH AFRICA (1965)

Percentage rates.

Age group	West Africa	North Africa
0-14	4.0	4.0
15-19	65.4	19.1
20-24	68.9	19.2
25-44	71.7	16.9
45-54	70.3	16.5
55-64	58.3	13.3
65 +	32.3	6.8
Total	38.0	11.3

Source : See Table II.1.

Clearly, at the most general level, non-economic factors are much the more important element in the explanation of differences in participation rates between different age groups or between the sexes — childhood, childbearing and old age are physical facts and social or cultural factors everywhere tend to keep married women at least part of their adult lives in the home[1], and, therefore, by the usual conventions, out of the labour force. Beyond these broad influences, which operate to varying degrees everywhere, it is not easy to generalise. Many of the possible economic and social determinants interact in ways which it seems are almost impossible to disentangle[2].

For women in particular, while cultural constraints on activities outside the home tend to be stronger at low levels of income and development, these are just those situations which are characterised by a good deal of economic activity within the family or household from which women are

1. Most strikingly in Moslem countries, where overall female participation rates rarely exceed 10 per cent.

2. UN studies dealing with these issues include *Demographic Aspects of Manpower* [3] and *The Determinants and Consequences of Population Trends* [4]. A brief summary of leading issues is given by Penniment [5].

not excluded (though some occupations are much more open than others). Thus, as the general level of income rises and as wage based structures of employment develop, new opportunities are opened up outside the home for some groups of women (chiefly the young and educated) while some opportunities in traditional activities tend to disappear. This at any rate is one explanation of our finding that the highest as well as some of the lowest female participation rates are found in the poorest group of countries. Such effects could also account for some of the striking differences between rural and urban rates for females found in countries like India and Ceylon where measured participation is much higher in rural areas. At higher levels of income, participation among older women tends to decline, but is counter-balanced by relatively higher activity among the younger group of earners (15-24). This pattern is found in the richer Latin American countries as well as in most developing countries.

It is clear that economic factors — in particular the terms and conditions attached to the types of work available — are likely to influence decisions to enter the labour force, especially for women but also for older and younger men who may have some alternative to earning a living. But to study these effects we need to look towards a narrower base than general international comparison of measured participation. As this fits better with an analysis of unemployment itself, it is left over for Chapter III.

Problems of definition and the quality of existing statistics

Most information on participation rates and population (including age structure of the population) is derived from population census material and, as is well known, immense handicaps are faced by census takers in less developed countries. There are many cases where estimates of population size and age structure are subject to considerable margins of error. In addition to these general problems, there are particular difficulties associated with the concept and practical interpretation of economic activity to the various solutions of which measurements seem quite sensitive. Even when the definitional problem is settled in some rough and ready fashion, the interpretation of questions asked and of replies given can considerably influence the results. Social attitudes are also important as respondents are sometimes reluctant to admit that work is being done by, for example, women and children [1] [2].

There is, or has been, in any case no commonly applied standard set of questions in census or sample enquiries[3]. In many countries the census

1. This is particularly important in Moslem countries; for example, recent surveys in rural Egypt [6] indicate a much more active role for women than is indicated by the Census results.

2. Persons below a certain age level (varying between 5 and 14) are often excluded by definition from the labour force so that most participation rates for groups below, say, 15 years of age need to be used with care.

3. Studies dealing with issues of this kind include *Methods of Analysing Census Data on Economic Activities of the Population*, UN [7]. More detail on census definitions used in the last census round in Africa and Asia are given in Muira [8]. See also references [3] and [5] of this Chapter. Technically, reference to a specific time period to determine activity is often called the " labour force " approach as distinct from the " occupational " approach. In general, the former provides more satisfactory estimates of unemployment, since unemployment need not be separately distinguished under the latter approach except for first time job seekers. The labour force approach has become more common in recent census applications.

criterion is based on activities carried out in a reference week or day by which persons are classed as active if they were working, or were willing to work, for some variable and not always fully specified length of time in the reference period. The limitations of this approach in the context of seasonal variation in activity are immediately obvious and in rural areas it is necessary to supplement the activity in the reference week by questions with a longer time reference or about principal activity. The latter approach is sometimes used more generally without any definite relation to a specific period of activity at all : the basis for exclusion from the labour force in these cases is a list of non-economic main occupations — housewife (home worker), student, retired, etc.

It is difficult to be precise about the margin of error, or purely statistical differences to which the various procedures give rise since without controlled experiments with alternative approaches it is impossible to isolate the effect from genuine variation in activity levels. Groups most directly subject to differing treatment however are unpaid family workers and housewives in rural areas and some general indication of the possible effect on female participation is given in Table 3, which shows for a number of countries measured rural participation of women as a percentage of the corresponding rate for urban areas. It seems very likely that on the whole Latin American countries have been more restrictive in their definition of female family workers in agriculture than most countries in Asia and Africa. For a few countries, census data provide some information on groups excluded from the labour force ; thus in Algeria the 1966 census active population of 2.6 million excludes some 1.2 million females mainly occupied in agriculture ; for Morocco 1.2 million family helpers in agriculture were similarly excluded from the labour force of 3.3 million (1960).

TABLE II.3. RURAL PARTICIPATION OF FEMALES AS A PERCENTAGE OF URBAN PARTICIPATION

Country	Age Group 20-24	Age Group 25-44	Age Group 45-54
Chile	42	42	53
Colombia	40	52	73
Mexico	69	57	134
Peru	56	60	78
Venezuela	51	54	62
Ceylon	162	214	211
India	247	206	184
Indonesia	218	198	217
Philippines	85	100	110
Turkey	829	858	928
Ghana	100	94	97
Morocco	52	53	61

Source : Denti [9], based on Census data.

These definitional and statistical problems are themselves sometimes a reflection of more deep seated difficulties in applying the usual concepts of labour force to measurement in less developed countries. We have already argued that part of the problem arises from the importance of household

production situations in which all family members in some degree are likely to assist in economic activities but at low intensity and for short periods. It is quite clear that no fully satisfying answers can emerge from procedures which divide into economically active and non-active categories groups of people whose contributions to output vary very considerably and whose activities are themselves not easy to classify. Hours worked and efficiency must therefore be taken into account in many contexts where in developed countries reference to " labour force " would suffice.

But it is important to distinguish those situations in which the difficulties in applying labour force concepts are in some sense fundamental or inherent from those where the measures obtained are suspect or unreliable for other reasons. In particular, the adequacy or usefulness of the labour force approach should not be judged solely on the basis of census results. The very scale of such enquiries and numbers of untrained personnel involved tend to prejudice the outcome and much better information can be got (and is got) by sample enquiry. Thus we are not so pessimistic about the usefulness of labour force concepts as some recent writings have tended to be[1]. It is, of course, also still true that for quite a number of countries we are without any useable information on labour force because no full survey or census has yet been undertaken.

Modern and Traditional Occupations and Activities

Since it is perhaps where labour market structure is well developed that the conceptual apparatus of labour force, employment and unemployment can best be applied, it is worth exploring further some empirical aspects of labour market development. " Modern " employments, those representative of a developed labour market, may be thought of as characterised by institutional working conditions, based mainly on employer/employee relationships including contractual or otherwise explicit arrangements in regard to work time and rates of payment. Those whose conditions of work are of this kind may, with reasonable accuracy, be described as members of a labour force.

Traditional employments in contrast, include many activities organised around the household as working unit within which self employment on the one hand and family labour on the other replace the employer/employee foundation. In this sector employment can be extended through work sharing to include people whose labour force status is dubious.

Some idea of the relative importance in different countries and across different economic sectors of modern employments so defined is given by the proportion of wage and salary earners in each sector (Table 4). Because most of the figures are derived from census data, calculations relating to males only are perhaps more reliable and the wage earning " domestic services " group, which includes many types of employment best treated as traditional, consists largely of female employees. Male employees working in household enterprises, especially in agricultural households

1. e.g. Myrdal (*op. cit.* Chapter I) especially Part 5, Chapter 21, Section 15, though he also finds it difficult to do without the concept of activity — " When in the later discussion we occasionally refer to the active labour force, we do so only in a very vague sense, though it can always be understood as excluding the disabled and persons who abstain from work because of institutional and attitudinal constraints that the policy makers do not at present seek to change ". (Page 1015 of the Pelican Edition.)

TABLE II.4. PROPORTION OF WAGE AND SALARIED MALE EMPLOYEES TO TOTAL MALES EMPLOYED, TOTAL AND BY SECTOR, SELECTED COUNTRIES, POST 1960 DATA

Base : proportion × 100.

Country	Agriculture	Mining, manufacturing	Construction	Public utilities, transport	Commerce banking, etc	Services	Total	Total excluding agriculture
	1	2	3	4	5	6	7	8
Chile	68	83	89	82	46	90	72	74
Argentina	49	78	73	85	46	82	67	72
Mexico	51	84	88	88	35	86	61	75
Ceylon	45	74	89	89	53	84	61	75
Venezuela	33	79	72	68	47	90	58	73
Brazil	26	78	98	71		47	46	72
Colombia	43	72	77	76	40	84	54	68
UAR	35	80	80	72	26	84	49	81
Peru	32	70	78	70	38	90	48	68
Iran	25	73	90	78	28	83	48	70
Morocco	21	66	81	72	25	95	37	68
Korea	12	74	86	89	22	83	37	67
Philippines	12	77	93	85	41	87	34	76
Ghana	14	45	77	79	41	82	32	62
Indonesia	17	44	78	51	7	85	27	53
Pakistan	15	36	33	55	15	59	22	41
Thailand	4	60	82	67	21	86	17	63
India	n. a.	45	52	73	25	59	n. a.	48

Source : ILO Yearbook of Labour Statistics, 1969.

NOTE. Data for tables 6, 7 and 8 are derived by the ILO from census returns (often samplings of census returns) and sometimes from sample survey information. Important differences in statistical treatment, apart from those considered in the text, relate to the armed forces, who are sometimes included under services but sometimes excluded altogether ; to persons seeking work for the first time who are not always grouped separately, and to the category of workers whose status or activity was not sufficiently well defined to be included in the main groupings and whose importance varies considerably from country to country. Countries whose armed forces are excluded include Algeria, Pakistan, Korea and the Philippines. In general, our sectoral estimates relate only to that part of the labour force which was classified by activity or occupation, and therefore excludes persons seeking work for the first time, the unemployed and those of ill-defined status, where these groups were separated out. However the estimate of totals (columns 7 and 8) include groups whose activity was not defined but whose status was defined so that columns 7 and 8 are not quite weighted averages of the sectoral totals.

(attached or permanent labourers for example), might also be best excluded[1], but it is impossible to do this precisely ; the exclusion of *all* males working in agriculture results in the totals shown in column 8 of the Table. Certain professions, on the other hand, like doctors, lawyers and accountants, while undoubtedly to be included in the modern sector, are frequently self employed. Some idea of their importance can be got by adding self employed workers in certain occupational categories[2] to the totals of columns 7 or 8. In general, the addition increases the overall proportion of modern employments by 1 or 2 per cent (2 per cent in Latin America, usually 1 per cent or less elsewhere). To help clarify the statistical picture, countries are arranged in Table 4 from those with higher to those with lower proportions in wage employments (when agriculture is included).

A somewhat similar measurement approach was used by ILO specialists in calculations relating to Africa and Asia[3]. For Asia, where statistics are more comprehensive, their estimates incorporate some additional refinements — inclusion of plantation wage earners but exclusion of other agricultural workers and exclusion of wage earners in the traditional manufacturing sector[4]. It is difficult, however, to compare estimates directly since theirs were mostly based on rather earlier data than ours, and some change in the structure of employment seems to be occurring. Since much of *our* data for Table 4 is based on material from the early 1960s such changes also imply that the labour market is now, in 1971, more developed than our figures suggest[5].

What emerges most clearly perhaps from Table 4 is the close relation between shares of wage employment at the sectoral and whole economy level. Thus, the between-country differences in the proportions of wage and salary employment from most to least developed economies is about 55 percentage points (column 7) and corresponding sectoral differences range from 40 to 50 per cent in the goods producing sectors to about 30 per cent for service type activities. But there are also considerable and fairly persistent differences between sectors ; commerce and agriculture are almost everywhere the least developed sectors while services (mainly government services) and public utilities are usually at the other end of the scale. Thus the differences in the economy-wide proportions of wage workers are augmented by the tendency for agriculture to decline in relative importance as sectoral markets themselves tend to become more developed.

A second and not unexpected feature is that there are very considerable differences in the state of development of labour markets from one country to another as revealed by this criterion. But at the upper level,

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1. Partly also because agricultural workers tend both to work for wages and to cultivate their own holdings so that the division into employees and others is often rather arbitrary.
2. ISCO categories : 0 = professional and technical workers; 1 = managers and administrators and 2 = clerical workers.
3. Doctor and Gallis [10].
4. The latter defined by reference to a size of establishment criterion.
5. While the rate of change, as defined by the change in the proportion of male wage workers to total male workers between enquiry dates, is subject to a number of qualifications in respect of statistical prodecures, recorded changes seem almost invariably to point in the same direction. For example, in Iran 1958-66 the proportion of wage workers rose from 44 to 48 per cent, in Korea 1960-66 from 25 to 37 per cent, in Colombia 1951-64 from 50 to 54 per cent and in the Philippines 1960-65 from 27 to 34 per cent.

overall proportions are not much lower than those typical of developed countries[1], and even at the lower end of the scale proportions of male wage earners in non-agricultural sectors taken together are considerable. Non-agricultural wage employment provides a rough index of labour market conditions in urban areas (in which areas are also found nearly all self employed modern sector workers). For example, in India, where the proportion of male wage workers to all male workers outside agriculture was 48 per cent (Table 4), the proportion for urban areas (including some agriculture workers) was 59 per cent[2].

One important qualification, however, is that almost no countries from sub-Saharan Africa can be included for lack or data ; what indications there are for these countries suggests that the wage earning sector is very small[3] partly because the urban sector is usually very small. Also important, as a general statistical qualification, is that census and survey procedures are more likely to omit the least developed areas within the country and such omissions will bias upward the wage earning proportion especially in agriculture[4].

Subject to these qualifications, however, the analysis provides some comfort for an advocate of the labour force approach, at least in the case of males and even in very poor countries, for urban areas. For females, however, the differences in recording procedures alluded to earlier make themselves very apparent. Thus, in Latin American countries relatively few women are recorded as working in agriculture so that essentially for this reason, the overall proportion of women workers who are wage earners is higher than for men. The proportion of women wage earners is similarly relatively high in the Moslem countries of North Africa and West Asia. On the other hand, in countries like India, Korea and Indonesia where many more females are included as family workers in agriculture, the wage earning fraction is very much lower. Superficially, therefore, the differences between the most and the least highly developed labour markets on the wage earning criterion, are greater for women than for men[5].

Population and Labour Force Growth

All the qualifications already discussed in this chapter, and some others, are relevant to the estimates of labour force growth presented in Table 5. In addition to basically poor quality of information for growth calculations more than one set of data are needed so that differences in coverage and measurement technique between estimates taken far apart in time influence, and may influence considerably, estimates of growth rates. For many

1. For example, the corresponding overall proportion for Japan was 65 per cent in 1965, for France it was 74 per cent in 1962 and for Germany 82 per cent in 1966. (Source : *ILO Yearbook 1969*).

2. For urban data on India see the *Fact Book on Manpower* [11]. Data relate to the 1961 census.

3. The Ray survey of 1965 for Tanzania [12] provides a more complete picture than is usually available. Approximately 5 per cent of the male labour force was in urban areas and of this group about 60 per cent worked for wages (almost half in government or government controlled activities). In Tanzania as a whole, the proportion of male wage workers was surprisingly high at one third of the total.

4. And probably bias downward the share of agriculture in total employment.

5. For example, the proportion of wage earning females in Chile was 76 per cent (72 per cent for men) and in Korea was 23 per cent (37 per cent for men).

countries, no more than one set of data is available, sometimes none, and for these countries estimates must, perforce, be fabricated from fragmentary data or on the basis of information available from similar environments.

TABLE II.5. ESTIMATES OF GROWTH OF THE LABOUR FORCE IN LESS DEVELOPED COUNTRIES : 1950-1980

Percentage rates.

	Rates of growth		Rates of growth			
	1950-1965		1965-1980		1970-1980	
	Total	Annual	Total	Annual	Total	Annual
Developed countries	17.6	1.1	15.8	1.0	10.0	1.0
Less developed countries	28.1	1.7	39.0	2.2	25.2	2.3
REGIONS :						
Other East Asia	30.7	1.8	56.5	3.0	35.3	3.1
Middle South Asia[1]	23.2	1.4	33.1	1.9	21.6	2.0
South East Asia[2]	32.3	1.9	43.0	2.4	28.0	2.5
South West Asia[3]	31.8	1.9	50.4	2.8	31.3	2.8
West Africa	38.9	2.2	40.2	2.3	25.8	2.3
East Africa	21.1	1.3	30.8	1.8	19.8	1.8
Central Africa	16.0	1.0	19.4	1.2	12.9	1.2
North Africa	17.5	1.1	45.7	2.5	29.0	2.6
Tropical South America	48.3	2.7	55.6	3.0	34.7	3.0
Central America	52.0	2.8	62.7	3.3	39.1	3.4
Temperate South America ...	25.7	1.5	25.0	1.5	16.0	1.5
Caribbean	31.1	1.8	40.6	2.3	25.8	2.3

1. Includes Ceylon, India, Iran and Pakistan.
2. Includes Burma, Cambodia, Indonesia, Malaysia, the Philippines and Thailand.
3. Middle East countries.

Source : Derived from data given in Ypsilantis [1].

NOTE. Excludes Sino-Soviet countries.

But while there remain major uncertainties about population and participation estimates for some important countries, the general picture of rapid population growth stemming mainly from falling death rates and especially lower rates of infant mortality is clear. Since the population groups from whom the 1980 labour force will be drawn are already born, projection of the active population is a matter of estimating future death rates applicable to the relevant population groups and applying the estimate participation rates to the survivors. The table shows main results of the most comprehensive exercise of this kind so far undertaken.

It may be worth stating that, in the projections, much the most important source of growth in labour force arises from projection of population changes and the overall influence of projected changes in participation rates is very small. Indeed, what changes were made from estimated current levels of participation are almost entirely in a downward direction to allow for earlier retirement and more education. In the light of the current situation it might be argued that these allowances were sometimes too generous ; because of this and because some projections of past population

growth were almost certainly underestimated, it is very unlikely that the statistics of Table 5 overstate the increases in prospect[1].

The estimates illustrate in a striking way the size of the problem facing the developing countries. Rates of growth are, in total, more than twice as great as in the developed countries, and imply an overall increase of the order of 25 per cent per decade or almost 40 per cent over the 15 year period from 1965. At the regional level, some areas are still worse off with rates ranging over 50 per cent and up to 60 per cent for Central American countries. It is important to note that in all less developed areas labour force is projected to grow appreciably faster in the future than in the past.

The Industrial Structure of Activity

Before embarking upon the central issues of the employment problem in the next two chapters, it is convenient to present here some other relevant material about the state of the labour market in less developed countries.

Cross country comparisons

Some notion of the range of differences in the industrial structure of activity in less developed countries is indicated by Table 6. We have included female activity because the distortions introduced by its exclusion would be greater than arise from its inclusion and for similar reasons we include both modern and traditional employments. The fact that the statistics of employment structure defined on this basis indicate the existence of *some* consistent patterns between countries and through time, rather supports the comprehensive approach.

Two features which stand out are the decline in the importance of agriculture as an absorber of labour as income per head increases, and the absence of any marked trends in the distribution of non-agricultural employments between sectors. However, when countries are grouped, some tendency for the non-agricultural goods producing employments to become more important relative to service type employments, does seem to occur and this is also observed for developed countries at least up to per capita levels like that of Western Germany. The tendency is slight, but countries excluded from the poorest group for want of data include many in Africa with very small industrial sectors whose inclusion would probably strengthen the relationship. (See Table 7).

The possibility of using cross section data in a more precise way to estimate " normal " patterns of employment at different income levels and, more ambitiously, especially since time series data are extremely weak, for actual forecasting of structural change, has been investigated recently by Sabolo[2]. Sabolo reports result from a sample of 26 countries, for which per capita income differences " explain " between 70 and 85 per cent of the inter-country variations in sectoral employment share (most for agriculture and least for services). As the sample is very incomplete in respect of the

1. Estimates shown in Table 5 are based on the 1963 UN estimates of population growth (see reference [2] of this chapter) which have since been revised — see UN document E/CN/9/231, November 1969, *The World Population Situation*. No major changes would need to be made to Table 5 were account taken of these revisions, however.
2. In two papers, see references [14] and [15].

poorest level of countries, the results need careful interpretation[1], but for the $ 200-700 per capita income range there is a reasonably clear cut normal pattern which can serve as a useful shorthand in decription and perhaps also as a starting point from which to examine the more interesting exceptional country cases.

TABLE II.6. SECTORAL SHARES IN TOTAL EMPLOYMENT : SELECTED COUNTRIES

		Agriculture	Non-agriculture	Mining, manufacturing, public utilities	Construction, transport	Commerce	Services
		Percentages of total employment		Percentages of non-agricultural employment			
AFRICA :							
Algeria	1966	58	42	21	23	16	40
Ghana	1960	62	38	30	16	38	16
Morocco	1960	64	36	31	14	24	32
UAR	1960	58	42	24	13	20	48
AMERICA :							
Argentina	1960	20	80	37	18	17	29
Brazil[1]	1960	52	48	(44)	17	(14)	25
Chile	1960	30	70	34	16	15	35
Colombia	1964	49	51	30	16	17	37
Mexico	1960	55	45	34	15	21	30
Peru	1961	52	48	34	14	20	33
Venezuela	1961	34	66	25	17	20	38
ASIA :							
Ceylon	1963	56	44	25	17	22	37
China (Taiwan)	1956	56	44	33	14	17	36
India	1961	74	26	40	10	16	34
Indonesia	1965	70	30	20	8	35	37
Iran	1966	47	53	38	21	16	26
Korea	1968	52	48	30	13	27	30
Malaysia (West)	1962	55	45	20	12	30	38
Pakistan	1965	67	33	32	18	26	25
Philippines	1965	57	43	28	15	25	32
Thailand	1960	84	16	24	11	36	30

1. Hunting and fishing are included under manufactures ; banking, insurance and real estate are included in manufacturing and not in commerce.

Source : ILO Yearbook of Labour Statistics, 1969.

NOTE. Data exclude persons of ill defined status and unemployed persons.

Use for prediction purposes, however, raises more difficult questions. National employment structures, even if closely related to some function of per capita income reflect relatively full adjustment to per capita income levels : the adjustment period, in a sense, covers the whole period of

1. All but nine countries included in the sample are Latin American countries and of the remainder only four are countries with estimated per capita income below $ 150.

previous economic activity. Changes now occurring at the national level in per capita income in developing countries and more especially in labour force growth are faster than in the past and adjustments of employment structure to per capita income may be different when change is rapid. Positive policy objectives in respect of both growth rates and industrial structure are also relatively new forces in many countries. For these reasons and others connected with data quality, we have some doubts as to how far the cross section approach at this time can provide useful equations for predictive purposes. But the best test is the accuracy of the predictions and as more information becomes available (from the 1970 census round) we should be able to check these directly[1].

TABLE II.7. AVERAGES OF SECTORAL SHARES IN EMPLOYMENT, EXCLUDING AGRICULTURE : POST 1960 DATA

Percentages.

	Manufacturing, mining, public utilities	Construction, transport	Services and commerce
USA	30	11	59
Sweden	38	19	45
Western Germany	45	15	40
Japan	34	18	48
Less developed countries :			
I. rich group	32	16	52
II. middle group	27	15	58
III. poor group	28	13	59

Source : Data for less developed countries from Table 6 and for developed countries from the *ILO Yearbook 1969.*

NOTE. Averages for less developed countries are unweighted ; the rich group comprises those with per capita incomes higher than $ 300 per annum, the middle group with incomes between $ 150 and $ 300 per annum and the poor group is those with incomes below $ 150 per annum. Countries included are those listed in Table 6. Income data used was that calculated by Hagen and Hawrylyshyn [18].

Changes in structure in the 1950's and 1960's

While data concerning developments in the structure of activity in the recent past are extremely weak, where they exist at all, the overall impression is one of relatively little change if not stagnation (Table 8). In particular, the share of agriculture has declined very little and the corresponding increases elsewhere are small. In relation to the large increase in labour force occurring over this period (see Table 5), it is implied that agriculture continued to absorb the bulk of additional numbers. Indeed, if the 1950-1960 decline in the share of agricultural employment is projected to 1980, the 1965 agricultural labour force in less developed countries would increase by about one third over the 1965-1980 period. A continuation of a decade rate of decline of only 2.6 per points in the share of agriculture would also mean that in fifty years from 1960, agriculture would still employ well over

1. Sabolo's predictions about 1980 unemployment levels are examined in Chapter V.

half of the total labour force of less developed countries. But if, as Sabolo's work suggests there is a close relationship between changes in employment structure and growth in per capita income, then it is not surprising with population growing at 2 to 3 per cent that change in structure is small. For example, in India's case, doubling per capita income from a 1965 level of about $ 100[1], even with growth of 7 per cent per annum, would take about 16 years with population growing at 2.5 per cent per annum[2]. Sabolo's " normal " pattern suggests rather small changes in employment structure for income changes between $ 100 and $ 200[3].

Aggregate statistics tend to be dominated by large countries like India and Indonesia where change has been slight. At regional level there was more variation, with differences in experience related in part to differences in initial position both in income and employment structure. Slightly more movement into industry occurred in Asia than in Latin America, and since in Asia industrial employments were much smaller to begin with, the smallness of the share change there masks a quite rapid growth in industrial employment. Again, while in Latin America non-industrial sectors increased by much more than did industry itself, in Asia the industrial sector gained relative to other non-agricultural sectors.

TABLE II.8. CHANGES IN THE STRUCTURE OF EMPLOYMENT : 1950-1960

	Agriculture	Mining, manufacturing and utilities	Construction	Commerce and Transport	Services
All less developed :					
1950	73.3	8.2	1.8	7.6	8.9
1960	70.7	9.5	2.0	8.0	9.6
Latin America :					
1950	54.1	15.0	3.6	11.7	15.6
1960	50.1	15.6	4.4	14.1	15.9
Asia, South and East[1] :					
1950	75.3	7.7	1.1	6.9	8.8
1960	73.1	9.2	1.3	7.2	9.4
North Africa[2] :					
1950	72.9	7.8	1.9	9.1	8.1
1960	69.6	8.1	2.2	8.6	11.4

1. Excludes Middle East countries.
2. Algeria, Morocco, Libya, Sudan, Tunisia and the UAR.

Source : Tables calculated by Bairoch and Limbor [37].

Table 9 illustrates trends for a number of less developed countries considered separately. Estimates are uncertain as we have not attempted to adjust for differences in measurement practice. Some countries clearly did

1. Hagen and Hawrylyshyn [13].
2. *1969 World Population Data Sheet* [16].
3. Viewed in this light, the changes in structure which have taken place in some of the smaller Asian countries particularly, are quite remarkable. These cases are discussed later in this section.

achieve large reductions in the share of agriculture, though the sectors showing biggest increases are more often commerce and services than industry, especially in Latin America. Thus, of countries shown in Table 9, only Taiwan, Korea and Iran show substantial movement into the industrial sector, while in Venezuela, Colombia and the Philippines — countries where the reduction in agriculture's share was also considerable, nearly all the increase went into service type activities. Of all the countries examined only in Argentina, Korea and, probably, Taiwan did numbers employed in agriculture actually fall over this period.

TABLE II.9. CHANGES IN THE STRUCTURE OF EMPLOYMENT

Percentages shares in total employment.

		Agriculture	Other goods producing sectors[1]	Service type activities
Latin America :				
Argentina	1947	26.7	30.2	43.1
	1960	19.8	35.9	44.3
Chile	1952	31.2	30.5	38.3
	1960	29.6	30.1	40.3
Colombia	1951	55.9	18.4	25.7
	1964	49.0	19.6	31.4
Mexico	1950	60.9	16.7	22.4
	1960	54.6	19.1	26.3
Venezuela	1950	45.1	20.1	34.8
	1961	34.3	22.3	43.4
Asia :				
Ceylon	1953	56.7	13.5	29.8
	1963	55.7	13.8	30.5
China (Taiwan)	1956	56.0	16.7	27.2
	1963*	52.3	20.2	27.5
	1968*	39.9	24.9	35.2
India	1951	70.6	11.1	18.3
	1961	73.8	11.5	14.7
Korea (South)	1960	65.9	9.6	24.5
	1963*	63.2	11.5	25.3
	1968*	52.5	17.7	29.8
Pakistan	1951	79.5	7.6	12.9
	1961	75.6	9.6	14.8
Philippines	1960	65.9	13.4	20.7
	1960*	61.5	15.5	23.0
	1967*	57.5	15.0	27.5
Middle East :				
Iran	1956	58.0	20.7	21.3
	1966	47.1	27.6	25.3
UAR	1947	63.8	12.3	23.9
	1960	58.3	12.1	29.6
	1960*	54.0	13.7	32.3
	1966*	51.4	16.3	32.3

1. Mining, manufacturing, construction, public utilities.

Source : ILO Yearbooks of Labour Statistics, 1969, 1968, 1967, 1960.

NOTE. Census data except where survey data is indicated by an asterisk.

For Latin America, structural changes in employment have been the subject of special enquiry at the regional level and these estimates of structure and rates of change are shown in Table 10. They differ from those calculated by Bairoch (Table 8) indicating a stronger downward trend in agricultural employment and a faster increase in services[1]. A significant feature here is the importance of the " unspecified " group which is thought to consist largely of marginal service workers.

TABLE II.10. CHANGES IN THE STRUCTURE OF EMPLOYMENT IN LATIN AMERICA, 1950-1969

Percentages.

	Structure of employment			Annual Growth rates	
	1950	1960	1969	1950-1960	1960-1969
Agriculture	53.4	47.2	42.2	1.3	1.5
Mining	1.1	1.0	1.0	2.0	2.2
Manufacturing	14.4	14.4	13.8	2.6	2.3
of which :					
Factory industry	6.9	7.6	7.7	3.7	2.9
Artisan industry	7.5	6.8	6.1	1.5	1.6
Construction	3.8	4.1	4.5	3.2	4.0
Transport and public utilities	4.2	5.1	5.5	4.6	3.4
Commerce and finance	7.8	9.0	10.1	4.1	4.1
Miscellaneous services	13.0	15.6	17.3	4.5	4.0
Unspecified (services)	2.3	3.6	5.6	7.3	8.2

Source : ECLA, on the basis of official statistics. Quoted in *Economic Survey of Latin America 1968*, Tables I-21 and I-22 [19].

For Asia, detailed statistics are available only for only a few countries which have undertaken regular national manpower surveys. Daat for Taiwan, Korea and the Philippines, together with that of Japan, are shown in Table 11.

Although trends are somewhat obscured by difficulties in obtaining continuous series, there is a fairly sharp contrast between Japan on the one hand, where employment growth in manufacturing and construction was considerably faster than in either commerce or services, and the situation in the Philippines, where rather the reverse has obtained. Experience is more mixed for Taiwan and Korea, but here too growth outside goods producing sectors has been considerable, especially in a relative sense in Taiwan. The rapid and, in some sectors remarkably rapid, growth in employment in all

1. The number of earlier ECLA estimates of structure since revised suggests that the figures are pretty rough, even for 1960. At the national level such detailed statistics are rarely reported, perhaps testifying to the problems presented by the comparison of census data. On the whole what figures we have seen suggest that for the estimates of Table 10 to be correct would require a sharp increase in service occupations in Brazil. It is true that manufacturing employments (excluding artisan establishments) did not grow very fast in Brazil — 2.8 per cent per annum, probably no faster than the labour force, although urban growth was very considerable. (There are considerable data problems in the case of Brazil; see Kahil [18] for a detailed and severe critique of the census material).

three less developed countries reflects the fast run down of the agricultural sector as well as growth in the labour force.

TABLE II.11. RATES OF GROWTH IN EMPLOYMENT : SELECTED ASIAN COUNTRIES

Country	Period	Manufacturing	Construction	Commerce	Services
China (Taiwan)	1955-65	4.3	..	2.9	6.1
	1966-68	8.2	16.6	17.9	7.7
Korea	1963-68	13.3	9.7	9.0	3.6
Philippines	1958-64	2.5	4.5	5.9	4.1
	1965-67	6.6	7.7	9.8	6.3
Japan	1959-66	4.1	5.6	2.8	2.8

Sources : Data for Taiwan 1955-65 are from the Household Registration Survey (PDCA) as given in the *Taiwan Statistical Data Yearbook 1965*. Data for 1966-68 are from the labour force survey, quoted in the *ILO Yearbook 1969*. There are considerable differences in the definition of sectors between these two sources and the absolute rates of growth generated from the 1955-65 statistics are affected by the inclusion of workers from the 12 to 14 year old age groups who, through time, have become less important on account of the extension of educational opportunities. In the Philippines also there was a change in sample design from 1965. In the Philippines workers over 10 years old are included, in Korea from 14 years, in Japan (and Taiwan 1966-68) from 15 years. Data for the Philippines, Korea and Japan were derived from the *ILO Yearbooks of Labour Statistics*.

For Africa and Middle Eastern countries we have very little trend information in addition to the calculations of Bairoch for North Africa. His calculations again suggest a considerable rise in service occupations. For two of the bigger countries included in these regions, Iran and the UAR, the census results indicate a mixed pattern, with Iran being a particularly successful country in shifting the structure significantly toward industry, while in Egypt all the net change which occurred was from agriculture to service occupations. The census gap in the latter case is, however, extremely long and manpower survey data suggests some shift into industry after 1960. In sub-Saharan Africa, trend series relate almost entirely to wage earners and coverage even of these is still probably very defective for the private sector. What the available series show is a tendency for total non-agricultural wage employments to be either growing very slowly or actually falling[1] and with perhaps relatively minor changes in the composition of employment (the public sector component of which accounts for 40 to 50 per cent).

The tendency for service and commerce employments to grow as fast as, if not faster than, industrial employments has excited a good deal of concern in some quarters because it is thought work spreading or disguised unemployment are particularly characteristic of these activities and therefore that fast growth indicates an increasing deficit between work wanted and

1. Frank [20] calculates the trend percentage growth rates of a number of countries, roughly from 1955 to 1964; of the ten country cases he examines, six show negative growth rates, and in only two, Sierra Leone and Ghana, does the growth rate exceed 1 per cent per annum. Details of employment structure in the monetary sector are available for some countries in East Africa from the Working Paper series of the International Institute for Labour Studies [21].

work available. One direct approach to this problem which may be mentioned here involves a consideration of the changes in employment structure within the service sector. If the need to obtain some income generating occupation is a dominant explanation of rapid growth in services, we might expect :

a) the fast growing sub-sectors to be those where much self-employment and family working is characteristic ;
and

b) within sub-sectors, that self-employments should become more important.

While there are difficulties in obtaining data at this level of detail, the cases of Taiwan and the Philippines have recently been studied by Bhalla [22], using manpower surveys and Industrial Census statistics. The major finding reported is that changes in employment structure in the service sector are very heterogenous ; employments of different status grow at very different rates from one sub-sector to another as do the sub-sectors themselves. But there is certainly no clear tendency for rates among self-employed and family workers to grow faster than wage employments, and indeed, growth of wage employments in some cases has been considerably faster. Sometimes, however, while wage employments have grown faster, the greater initial size of the self-employed group implies that in absolute terms the number of jobs added in self-employments is greater or about the same. For example in Taiwan between 1961 and 1966 in retail trade, wage employments grew at 15.9 per cent per annum while self-employments grew at 5.4 per cent per annum, but because self-employment was three times as large as wage employment initially, the number of jobs added of each status category was about the same. We return in Chapter V to more general issues concerning the service sector ; disguised employment is discussed in Chapter III.

Chapter III

UNEMPLOYMENT IN LESS DEVELOPED COUNTRIES

The object of this chapter is to set out what quantitative indications of the level of unemployment and underemployment we have been able to find and to assess their role as indicators of the size of the employment problem. We shall see that attempts at quantification make use of a variety of concepts or definitions and that the resulting magnitudes are quite sensitive to the procedures adopted.

" Involuntary " Unemployment : General Considerations

We begin with the approach which has been applied more widely than any other in empirical work and from which almost all the information we have about trends in unemployment is derived. The definitional framework here is set up to enumerate those members of the population who are seeking work or additional work at going wage rates and who are not in fact employed ; properly carried out therefore the procedure identifies the group who are involuntarily unemployed. Involuntary unemployment covers anyone unemployed who is or would be as efficient at a job as someone actually doing it and who would accept the same wage.

In application to less developed countries there are a number of reasons why it is difficult to identify this group of people.

i) *The Participation rate problem*

We begin from the discussion of the last chapter about the measurement of participation rates. Clearly, if a substantial group who would, in certain circumstances, accept work are by definition excluded from the labour force, then a significant aspect of the unemployment problem tends to get overlooked. However, it is not entirely clear that the bias in sample survey or census definitions of labour would necessary lead to this result. Recent studies in the United States which are focussed on the effects of income level and prospects for employment on participation are of interest in this context. These studies take account of two rather different reactions to a low income/poor job prospect situation[1]. The first type of reaction is embodied in the " discouraged worker " hypothesis : potential workers drop out of the labour market when prospects for finding work are poor but would accept suitable work if it were available. On the other hand, it is argued that there may also be groups who supplement family income by taking up paid work which would not be accepted if family income were higher. Thus, the " additional worker " hypothesis, postulates that as job prospects/family income situations improve, participation rates would fall.

1. See e.g. Mincer [1] for a more systematic discussion.

So far as we know these hypotheses have not been tested for any less developed country although such tests might be possible for the few cases where sample surveys providing data on participation rates have been undertaken for several years[1]. There seems little doubt that measured participation in developing countries could be considerably affected, in principle in either direction, by such phenomena. A study of female participation rate differences by family income level, for example, would be of interest in this context.

A priori reasoning perhaps suggests that in terms of the measurement procedures commonly adopted in less developed countries, the " bias " is likely to be toward understatement of unemployment. " Discouraged workers " tend to get left out and " additional workers " tend to be included when they are working. In rural areas particularly, statistics of the employed tend to get inflated by the inclusion of many part time or seasonal workers — married women, young and old dependents etc. and this helps create an illusion that rates of unemployment are very low.

However, it seems likely that the " discouraged worker " effect would be most important among young age groups, partly because more in these groups are dependents and partly because, as we shall see shortly, measured unemployment among these groups tends, despite discouragement, to be extremely high. Measured participation rates are indeed often very low and there are usually large groups who describe themselves as " students " or " homeworkers " and are therefore not counted among unemployed workers[2]. Thus, in India for example, sample survey data for urban areas[3] using a very low threshold for inclusion in the labour force[4] have shown " students " to account for about 55 per cent of the male age group 16-17 and 26 per cent of the group 18-21, (for females corresponding statistics were 21 per cent and 8 per cent) while of females aged 16-17, 60 per cent were " homeworkers " and 75 per cent were so classed of the 18-21 age group. By way of comparison, in very much richer Western Germany in 1957, full time students aged 16-17 formed only 17 per cent of the population of that age group for both males and females, and for the 18-21 age group the corresponding percentages at 9 per cent and 6 per cent respectively, were again much below the figures reported for urban India[5].

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1. Urrutia [2] however reports a pioneering effort for Bogota. Results of recent econometric work in the United States are reported by Parker and Shaw [3] and by Barth [4]. On the whole for low income groups, the results tend to support the "discouraged worker" hypothesis.

2. In Puerto Rico some use has been made of what is called an 'idleness' rate : young men not at work, not in school and not declaring themselves unemployed. For 1966, the following data are reported in the Manpower Report to the Governor [5] :

Males 16-24	000s
Employed	106
Unemployed	34
Idle	22

Unfortunately, reasonably complete data on educational attendance are rarely available by age group, so that it is difficult to apply this approach to check for consistency between numbers of self-declared students and education establishment records.

3. *The National Sample Survey of India* No. 85 [6] Tables 3.5 and 3.6. Data relate to July 1958-June 1959.

4. Only one hour's work in the reference week seems to have been necessary.

5. The source used for West German figures was *L'éducation dans le monde*, UNESCO [7].

It is impossible to guess how many Indian students would take jobs if they were available, but if only 10 per cent of the 18-21 male age group are effectively discouraged workers, adding this group to the unemployed would have raised the reported rate of unemployment for males aged 18-21 in urban India from under 10 per cent to over 20 per cent.

Since we will shortly be dealing in some detail with measured unemployment, particularly among young people, it is worth putting some additional emphasis on the problem of interpretation presented by low participation rates. To give the most extreme example we have located, in Alger, a largely urban department of Algeria, the 1966 census indicated an unemployment rate of women aged 15-24 of 13.4 per cent, a seemingly considerable figure. But it is easy to see that this is of quite secondary importance in relation to a calculated participation rate of a mere 4.8 per cent. Cases of this kind, while less extreme, are common in dealing with young age groups in less developed countries. The implied large overhang of potential workers outside the labour force could very quickly move into it following social or cultural change or improvement in job prospects. And social or cultural change can occur rapidly among young people.

ii) *The effect of the structure of activity*

Characteristically, across all age groups, measured rates of open unemployment are usually much higher in urban than in rural areas and this is partly explained by differences in the structure of activity, in particular, differences in the importance of household and non-household enterprise between urban and rural areas. Clearly among family workers and self-employed workers unemployment is difficult to identify and measure. The self-employed worker is unlikely to look for other work during a period when he has little to do in his own enterprise and is unlikely to treat his working dependents any differently ; adjustments to conditions of trade are more likely ot occur through lengthening and shortening of working hours[1]. This group, as we saw in Chapter two, is often a very large one.

iii) *Statistical and technical problems*

As a practical matter, there are virtually no useable unemployment statistics to be got as a by-product of some other public activity. Employment exchange records for example are almost useless as there seems to be no important less developed country for which an effective policing system either ensures that the unemployed register or that those finding employment take their names off the register (an automatic elimination of those not re-registering is sometimes used). Most schemes of this kind are voluntary and many mix registrations of those unemployed with those employed and seeking better employment[2]. In practice therefore almost all

1. Variation in hours worked (including seasonal variation) can of course be measured if surveys are undertaken sufficiently frequently; see the data for South Korea shown on page 61.

2. For details of the statistics collected by the ILO and published in the Yearbook of Labour Statistics see the *Technical Guide to Statistical Series*, Volume II. According to the 17th Round of the National Sample Survey for India, only about 30 per cent of the urban unemployed were registered at the employment exchange, while almost one half of those who were registered had a job. The proportion among those unemployed with secondary education or higher who were registered was much larger (50 per cent to 60 per cent) than for other groups.

we know about rates of unemployment is derived from sample survey and census data.

There are considerable problems in sample enquiries of this nature especially when dealing with illiterate and non-numerate rural populations to whom straightforward questions about duration and intensity of work may make little sense, whose activities are hedged about by custom and tradition and to whom the notion of finding work by actively seeking it might seem absurd. The expertise demanded in framing the sample questions and in obtaining meaningful answers is therefore rather high (that such people are scarce is one reason why there are so few useable statistics). Both the technical problems and the shortage of skilled personnel are likely to vary from country to country and, to some extent, will depend on the scope of the enquiry[1]. Repeated surveys are perhaps better than single surveys since they provide an opportunity to learn by doing[2].

Finally, a brief comment on the technical problems themselves — the reference period, the definitions used, the sampling frame, the questions asked, etc. Some of the points will be illustrated in more detail when we consider the results of the enquiries and their interpretation. Of the few countries which undertake regular surveys (see Table 1), definitions are similar to those used by the developed countries, especially the United States, which in turn are very close to those recommended by the ILO as published in "The International Standardisation of Labour Statistics" [9]. Thus the reference period is usually one week, part time workers are usually included in the total of employed (though often shown separately) and the unemployed comprises those actively seeking work who did no work during the reference period (or who did very little work e.g. less than one day during a reference week)[3]. In developing countries, surveys also usually include a series of questions designed to show the extent and nature of underemployment or part time working.

We confine ourselves here to two points of perhaps substantial importance concerning the procedures and to one general comment on survey problems in developing countries. First, the reference basis for defining employment and unemployment is likely, in a sense, to bias downward the rate of unemployment when the period taken is as long as one week and where all those working one or more days of the week are counted as employed. In particular, the effect of seasonality on work availability is quite likely to take the form of a reduction from peak activity at six or seven days per week to activity at a rate of two or three days per week, and if so, the difference could be entirely masked by the reference week procedure. In practice, this difficulty can be escaped if sufficiently detailed information is collected about the amount of work done during the week, but a misleading impression about levels of unemployment remains so long as the conventional procedure is used to compute overall rates of unemployment.

Secondly, it is very difficult to establish a sample procedure which pro-

1. A point to be remembered in looking at census results since in collecting data on this scale many relatively unskilled persons have to be used.

2. An interesting account of some problems encountered in the earlier rounds of the Taiwan labour survey is given by Chang [8].

3. Practise varies somewhat, especially in regard to unpaid family workers. In Taiwan, for example, unpaid family workers wanting more work and working less than 18 hours are counted as unemployed. Including this group as employed, as would be the case in India or Thailand for example, clearly affects the comparability of the estimates.

vides a precise meaning to " actively seeking work ". Behaviourist approaches — did you consult the employment exchange, answer newspaper advertisements, make enquiries to employers ? etc. — are rarely fully satisfactory, and the direct approach — are you seeking work, would you accept work ? — tends to be open-ended and relies considerably on the judgement of the interviewer. In practice, criteria vary from one country to another, being more or less restrictive and this may have important effects on the measures obtained. In Chile (Gran Santiago) for example, where the definition of unemployment is fairly tight, around 15 per cent of the *inactive* population in 1964 had a desire for work[1] of which over 20 per cent did not believe suitable work was available ; adding this latter group to recorded unemployment would have raised the unemployment rate in Chile from 5.3 per cent to over 8 per cent in 1964.

Finally, a general comment on survey procedures. We know that in less developed countries population growth and internal migration have led to a very rapid expansion of urban areas. We know also that the typical less developed city (like most cities) is geographically differentiated into rich and poor areas, and that many of the latter take the form of fringe slum or shanty town zones which are often expanding rapidly. Clearly, such situations present problems both from the point of maintaining representative sample proportions for areas between which rates of unemployment are likely to vary considerably, and in sampling adequately conditions in fringe slum areas. We have no specific information about the quality of surveys in less developed countries from this point of view and have seen no informed discussion of the question. It may be worth reporting experience in the United States where such questions have been intensively discussed in the context of the current surge of interest in the poverty problem[2]. A special survey of slum areas[3] for example found, among other things, that (*a*) unemployment rates averaged about 10 per cent, or three times the national average ; (*b*) 11 per cent of adult males did not work or seek work ; (*c*) 20 per cent of adult males who were expected to be living in these areas could not be traced[4] and (*d*) that about 7 per cent of working adults working part time wanted full time work (national average : 2½ per cent).

On the whole, the points made above would favour a conclusion that in the context of less developed countries and using conventional measur-

1. Of which 80 per cent females; data quoted in Lederman [10] a similar effect was observed in West Malaysia in 1967 :

Unemployment Rates	Male	Female	Total
i) Seeking Work	5.6	9.0	6,8
ii) Not seeking, but would take work if offered	0.8	4.5	2.1
Total	6.5	13.5	8.8

Source : See Appendix.

2. See e.g. White [11] and Johnston and Wetzel [12].
3. *Manpower report of the President, 1967* [13].
4. This "undercount factor" would seem to be very important for the measurement of unemployment; it arises partly because most surveys use the household as basic sampling unit with as corresponding sampling frame some geographical disposition of dwellings : those how have no " permanent " dwelling place who, a priori, are likely to include a relatively large proportion of unemployed, thus tend to get left out.

TABLE III.1. UNEMPLOYMENT AS A PERCENTAGE OF THE LABOUR FORCE : SAMPLE SURVEY STATISTICS

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
AFRICA :												
UAR	5.1	3.4	4.9	4.8	3.2	1.8	..	*1.5*	..	..	..	*3.2*
ASIA :												
Korea[1]			3.8	4.8	2.3	8.4	8.1	7.7	7.4	7.1	6.2	5.1
Philippines	7.9	8.2	6.8	6.3	7.5	8.0	6.3	*6.4*	7.1	7.1	8.0	*7.8*
Taiwan							*5.3*	4.4	3.4	3.1	2.3	1.7
AMERICA :												
Argentine (Gran Buenos Aires)									5.3	5.6	6.4	5.0
Chile (Gran Santiago)	6.4	9.5	7.4	*7.4*	6.7	5.3	5.1	5.3	5.4	5.4	6.1	*6.0*
Colombia (Bogota)[2]							8.7	7.2	8.8	11.5	12.7	11.6
Panama							*5.8*	*7.4*	7.6	5.1	6.2	9.1
Puerto Rico[3]	13.0	13.9	13.8	12.1	12.6	12.6	11.8	11.1	12.0	12.3	12.2	*11.6*
Trinidad and Tobago									14.0	14.0	15.0	14.0

1. New series from 1962.
2. 14 plus until 1965, thereafter 10 plus.
3. Revised series after 1960.

Source : International Yearbook of Labour Statistics, 1968, 1969, except Bogota from the CEDE Surveys [14].

NOTE. Figures in italics are at monthly dates different from those used elsewhere in the series.

ement procedures some understatement is likely of (*a*) the number of those who would accept work if it were available and (*b*) of the rate of unemployment especially in the sense of the proportion of available labour *time* which is not used, but also in relation to the proportion of people counted as members of the labour force who are not at work.

Empirical Evidence of Open Unemployment in Developing Countries

Data relating to the full-time unemployed for less developed countries which keep or have kept a regular survey are shown in Table 1. It is to be emphasised that in regard to the trend in unemployment in less developed countries, this table includes very nearly all the information we have, and even here changes in sample design and date of enquiry affect the results. Nevertheless, if we compare these rates with those available for developed countries over a similar period, only Canada and Ireland have experienced, for any length of time, rates like those for Chile, Korea or the Philippines ; and Puerto Rico or Bogota Colombia are entirely outside the range[1].

It is worth emphasising that many of these rates are high *despite* all the problems of measurement discussed above, and that with labour force growing at 2 or 3 per cent, even a constant percentage rate of unemployment implies considerable growth in the number of unemployed.

Much more information is available on a cross section basis, as many countries have undertaken one or more special surveys, especially in urban areas. Some information is available from population census statistics as well, particularly those of the post 1960 period when more questions about unemployment were introduced. However, differences in concept and definition from one enquiry to another argues against close comparisons of levels of unemployment in different countries[2] and most of our attention will be focused on the structural characteristics of unemployment. Some information about overall levels of unemployment is however summarised in an Appendix (Appendix B).

There seems little doubt that surveys directed to conditions in urban areas have most chance of providing useful information and much of the discussion which follows is based on results from about twenty such enquiries. From them a surprising degree of similarity in certain characteristics of the unemployed group seems to emerge[3].

Table 2 indicates the major common feature which is the preponderance of young workers in the unemployed group.

In most cases the rate of unemployment among young workers is double or more than double that applying to the labour force as a whole. It is worth pointing out that the difference between rates found for the 15-24 groups and groups over 24 is a good deal bigger than this. In Malayan towns for example, the overall rate of 9.8 per cent is made up from rates of 21.0 per cent for 15-24 age group and only 4.6 per cent for workers over

1. 1958, the last depression year, produced the highest rates of unemployment in developed countries; 9.6 per cent in Denmark, 6.6 per cent in Italy and 6.8 per cent in the United States for example; in the same year the rate in Puerto Rico was 13.9 per cent and in Chile (Gran Santiago) 9.5 per cent.

2. In particular, considerable differences are frequently observed between rates of unemployment derived from Census and Survey data.

3. The survey data we have been able to obtain do not, however, include big countries like Mexico, Brazil, Pakistan and Indonesia, or most of Africa.

TABLE III.2. RATES OF URBAN UNEMPLOYMENT[1] BY SEX AND AGE

	15-24	15 and over total	Notes
AFRICA :			
Algeria, Dept. of Alger, 1966			
Total	39.3	24,7	Census tabulation
Males	41.1	25.9	
Females	13.4	6.6	
Ghana, 1960 :			
Large towns :			
Total	21.9	11.6	Census tabulation
Males	22.1	11.5	
Females	21.5	11.8	
AMERICA :			
Bogota, Colombia, 1968 :			
Total	23.1	13.6	Survey :
Males	21.8	10.3	March 1968
Females	24.3	18.5	
Buenos Aires, Argentina, 1965 :	*a*	*b*	
Total	6.3	4.2	Age group :
Males	4.3	2.9	*a*) 14-29
Females	9.0	7.0	*b*) 14 plus
			1965 Survey
Chile, 1968 :			
Urban areas :		*a*	
Total	12	6	Age group :
			a) 12 plus
			Survey
			December 1968
Curaçao, 1966 :			
Total	37.7	18.8	Survey data
Guyana, 1965 :			
Mainly urban areas :		*a*	
Total	40.4	21.0	Age group :
Males	36.5	18.4	*a*) Over 14
Females	49.0	27.7	Survey data, 1965
Panama, 1963/64 :			
Urban areas :	*a*		
Total	17.9	10.4	Age group :
Males	17.5	8.9	*a*) 15-29
Females	18.5	13.3	Survey data, 1963/64
Puerto Rico, 1969 :			
All areas :	*a*	*b*	
Total	15.3	10.2	Age group :
Males	16.1	11.2	*a*) 14-24
Females	13.4	7.8	*b*) 14 plus
			Survey
			July 1969
Trinidad and Tobago, 1968 :			
All areas :			
Total	26	14	Survey data
Males	26	14	January-June 1968
Females	26	16	

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TABLE III.2. (*Cont'd*)

	15-24	15 and over total	Notes
Uruguay, 1963 :			
Mainly urban :			
Total	18.5	11.8	Census tabulation
Venezuela, 1969 :			
Urban areas :			
Total	14.8	7.9	Survey data March 1969
ASIA :			
Bangkok, Thailand, 1966 :			
Total	7.7	3.4	Survey data
Males	8.0	3.2	August-November 1966
Females	7.3	3.4	Bangkok-Thonburi Municipal areas
Ceylon, 1968 :			
Urban areas :			
Total	39.0	15.0	Survey data
Males	36.1	12.9	January 1968
Females	48.4	25.9	
China (*Taiwan*), 1966 :			
Whole island :			
Total	6.9	2.6	Survey data, 1966
Males	5.8	2.1	
Females	8.1	6.8	
India, 1961/62 :			
Urban areas :		*a*	
Total	8.0	3.2	Age group :
Males	8.1	3.4	*a*) 15-60
Females	7.7	3.2	Survey data 17th Round, 1961/1962
Korea, 1966 :			
Non-farm households :			
Total	16.3	8.9	Survey data :
Males	16.4	9.3	average of four quarters,
Females	15.3	7.9	1968
Malaya, 1965 :			
Urban areas :			
Total	21 0	9.8	Survey data :
Males	17.7	7.4	Metropolitan towns, 1965
Females	26.8	16.7	
Philippines, 1965 :			
Urban areas :	*a*	*b*	
Total	20.6	11.6	Age group :
Males	23.8	10.8	*a*) 10-24
Females	16.9	12.9	*b*) 10 plus
			Survey data : May 1965
Singapore, 1966 :	*a*		
Total	15.7	9.2	Age group :
			a) 15-29
			Survey data

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TABLE III.2. (*Cont'd*)

	15-24	15 and over total	Notes
Syria, 1967 :			
Whole area :			
Total	8.6	6.0	Survey daya :
Males	10.9	6.2	November 1967
Females	3.7	5.1	
Iran, 1966 :			
Tehran City :			
Total	9.4	4.6	Census tabulation
Males	9.3	4.6	
Females	10.3	4.0	

1. Some well conducted survey estimates which do not distinguish rural and urban areas are included.

Sources : See Appendix.

NOTE. Where possible, the labour force under 15 has been excluded.

24, so that the rate for the former group is four and a half times greater than the rate for the latter group. Our cut off point-age 15, admittedly arbitrary, is intended to remove the effect of the inclusion of very young workers who are often anyway excluded by definition and which in some enquiries only seem to get included if they are employed. In some countries, however, unemployment rates (whether meaningful or not) are extremely heavy among this group — in Taiwan, for example, the unemployment rate for 12 to 14 years olds can be calculated as 16 per cent in 1966 when the rate applicable to the 15 plus labour force was only 2.6 per cent.

A number of other striking characteristics of unemployment tend to follow directly from the relative young average age of the group who are subject to it.

The proportion of " inexperienced " workers tends to be considerable. Lack of experience is variously defined from e.g. having never worked before, to having never held a particular job more than two or three weeks. Depending partly on definition, the proportion of inexperienced unemployed to total unemployed seems to vary from about 20 per cent to over 60 per cent[1]. Inexperienced workers are very heavily concentrated at the young end of the age distribution (though slightly more so for men than for women).

Relative to the whole working population, the unemployed as a group tend to be better educated, especially where young and inexperienced unemployed are numerous. Thus, there are often considerable differences in rates of unemployment among labour force groups of different educational level, with particularly low rates among the illiterate urban population — often only 1 per cent or 2 per cent in Asia (Ceylon, Thailand, India and Taiwan for example) and nowhere more than 4 per cent or 5 per cent, except in Puerto Rico. These results could of course reflect a measurement problem

1. Of surveys in some twentytwo countries, we found seven cases with between 20 per cent and 30 per cent inexperienced unemployed, four between 30 per cent and 50 per cent and eleven over 50 per cent. The larger percentages tended to occur in Asia; few data for Africa are included.

TABLE III.3. EDUCATION AND UNEMPLOYMENT, SELECTED COUNTRIES

	Rates of Unemployment			
	Illiterate	1 to 5 years education	6 to 11 years education	12 or more years education
Colombia, Bogota				
April 1967				
Total labour force :	11.5	15.3	14.9	13.2
Males	4.1	22.0	16.3	11.3
Females				
	Illiterate	Primary	Secondary	Post Secondary
Argentina, Buenos Aires				
1965				
Total labour force	3.8	4.3	5.7	3.3
Venezuela, 1969				
Urban areas :				
Total labour force	*a)* 4.3	7.0	10.2	2.3
				a) includes others not classified
	Illiterate	Below Matriculation	Matriculation	Graduates
India, 1960/61				
Urban areas :				
Total labour force	1.2	2.7	7.0	2.8
	Illiterate and Primary Grades 1-4	Secondary, Grades 5 to 8	Ordinary Certificate	Higher Certificate and above
Ceylon, 1963				
Urban areas :				
Total labour force	7.1	7.3	11.8	2.3
	Illiterate	Primary	Secondary Grades I to IV	Higher Certificate and above
Malaya, 1965				
Urban areas				
Total labour force 15-24 :				
Male	10.4	19.5	30.9	15.5
Female	17.2	32.4	69.7	27.5
	Illiterate	Literate	Elementary to secondary	Graduate
Syria, 1967				
All areas :				
Total labour force	4.3	5.2	11.7	4.4

Sources : As for Table 2.

in dealing with illiterate populations, but the finding seems fairly general. Puerto Rico (whole country) is also the only example we have found where rates of unemployment are higher among illiterate groups than others.

It is clearly impossible to provide more than illustrative comparisons of the pattern of unemployment by education partly because educational systems vary so widely and partly also because few surveys provide the detail required. Some findings for a number of countries are shown in Table 3.

One other generalisation suggested by these illustrations (and we have not seen this contradicted by other evidence) is that rates of unemployment are relatively low among highly educated people[1]. It seems that it is among the middle group — primary and secondary school leavers — where unemployment rates are highest. It would of course be much more directly relevant for policy purposes were it possible to make these comparisons at an age-specific level but such data are rarely available. In the case of Malaya, where the data are available, one is struck not only by the extraordinary high rates among some of the groups distinguished but also by the high rate for the illiterate group. However, illiterates are still, on an age-specific basis, much less likely to be unemployed than others.

Finally, an interesting (but seemingly almost unique) tabulation in the Indian Sample Surveys indicate a very sharp difference in the *duration* of unemployment by educational groupings of unemployment. Other surveys also indicate that the average duration of unemployment can be extraordinarily long[2], though the phenomenon is less striking in Latin American than in Asia.

TABLE III.4. EDUCATION AND DURATION OF UNEMPLOYMENT : URBAN INDIA 1961/62

Percentages.

Duration of Unemployment	Less than one month	1 to 9 months	More than nine months
Educational Group :			
Secondary	9	39	52
Literate, below secondary	15	37	48
Illiterate	47	34	19
Overall average[1]	21	38	41

1. Includes groups other than those shown.
Source : National Sample Survey No. 127, 17th Round, September 1961-July 1962.

Persons of dependent status or not heads of households tend to be relatively heavily represented among the urban unemployed. Again, the statement can only be supported by fragmentary evidence, but is not contradicted by any evidence that we know about.

1. It is not always possible to distinguish between those who graduate or otherwise successfully complete a course of higher education and those who do not, but data in a few cases suggest that rates of unemployment are typically much higher among high level " drop-outs ".

2. In Singapore, Oshima's data [15] indicate that almost two-thirds of first time job seekers were unemployed longer than a year.

TABLE III.5. UNEMPLOYMENT BY STATUS

	Heads of household		Dependents	
	Married	Not Married	Married	Not Married
	Rates of Unemployment			
Philippines, 1965				
Urban areas :				
Males	3.7	7.4	9.4	22.9
Females	11.7	2.9	10.3	15.3

	Total	Married		Single	
		Had job	Never had job	Had job	Never had job
	Percentages of Unemployed persons				
Malaya, 1965					
Urban areas :					
Males	100	22	1	24	53
Females	100	10	11	15	64

	Rates of Unemployment
Puerto Rico, 1969	
Whole area :	
Heads of household	7.5
Wives of household heads .	3.3
Married (not separated) ..	6.7
Single	18.0
Children of household heads	18.4
Other dependents	20.8

Sources : As Table 2.

Interpretations of the evidence about open (urban) unemployment

How do we interpret these findings and what is their significance in relation to the general employment problem ? Why is open unemployment so concentrated in these particular socio-economic groupings ? These are not questions to which much attention seems to have been given either at theoretical or empirical level although different explanations yield rather different implications for an assessment of the " size " of the unemployment problem and the remedial policies needed. Two interpretations seem possible. One could simply argue that 15 per cent open unemployment does indicate the magnitude of an over-all gap between supply and demand for labour and that young and inexperienced people are particularly affected because these are the most vulnerable groups in the labour surplus economy ; older people cling to their jobs and previous work experience commands a premium which in a more balanced market would be translated into a wage differential, but in the surplus economy enables jobs to be got and held. Standard explanations for high unemployment then follow, e.g. that rates of increase in the

demand for labour are insufficient in relation to increases in the supply because capital requirements per unit of output are inelastic and because capital accumulation does not proceed fast enough. " Solutions " then involve some combination of faster capital accumulation and growth, and reducing the rigidity of the capital-output ratio.

A different interpretation of the unemployment problem begins from the proposition or assumption that some work is always available in the traditional sector and that additional numbers can be accommodated there partly through work sharing and partly through accepting lower income for a given effort. The question to focus on therefore, according to this argument, is the reason why some groups tolerate open unemployment in preference to traditional sector low productivity work. One possible answer is as follows :

Having regard either to past trends in wage increases in " modern " sector employments or to current wage differentials between these employments and those available in the traditional sector, the decision of a school leaver to spend time looking or waiting for the " right " job is in many countries a perfectly sensible one. It may, similarly, be perfectly rational for parents or others to maintain the school leaver during the process in the hope of later " pay-off ". As family responsibilities grow or when family support is no longer forthcoming, the unsuccessful job hunter is absorbed into the traditional sector where some income generating occupation can be got, albeit less satisfying and less financially rewarding.

This argument is more closely related to the special characteristics of the structure of open unemployment — the importance of young and relatively well educated people, and of persons of dependent status. It also receives some support from the findings of a few surveys which have directly investigated job aspirations[1]. These tend to show a marked preference among school leavers for non-manual work often considerably at variance with the existing structure of occupations. For example, in Bogota in 1966, over 60 per cent of first time job seekers were looking for " white collar " work and rather less than 20 per cent for industrial " blue collar " occupations. " White collar " male workers, however, accounted for only about 40 per cent of the total employed labour force — less than " blue collar " workers at about 45 per cent[2]. A similar, if not more extreme, situation is suggested by the Indian sample survey enquiries[3] where out of the total of first time job seekers, over 60 per cent sought " white collar " work and less than 30 per cent industrial work, while less than 20 per cent of the employed population actually had " white collar " jobs. It may be objected that these questionnaires throw little light on what work would in fact be accepted if it were offered and may reflect no more than an expression of wishful thinking of little relevance to economic behaviour ; but the notion that there exists a massive gap between the aspirations of increasingly modern-minded young job seekers and the opportunities which can be provided is fairly widespread.

1. An example from Africa is dealt with at greater length in Appendix B.
2. See Colombia Survey [14], Section IV, Table 16 and Appendix Table 7. Data relate to March 1966. Regarding new entrants, a further 20 per cent sought jobs in " services ", the army, the police force, etc., compared with about 15 per cent employed in these categories among men and over 50 per cent among women.
3. Data quoted are derived from the *National Sample Survey* 17*th round — Urban labour force*, September 1961 - July 1962.

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Finally, this explanation for open unemployment enables us to interpret the otherwise puzzling finding of a few surveys showing rates of unemployment separately for natives and migrants into urban areas. These surveys tend to show *lower* rates of unemployment, especially at young age groups, for migrants than for native born workers. Statistics quoted by Herrick [16] for Chile and by CEDE [14] for Bogota provide an illustration[1].

TABLE III.6. RATES OF UNEMPLOYMENT AMONG NATIVES AND MIGRANTS, GREATER SANTIAGO, 1963 AND BOGOTA, 1967

	Natives		Migrants		
	Santiago	Bogota	Santiago	Bogota	
				i	*ii*
15-19	14.0		8.8		
20-29	6.4		4.8		
Total	*6.4*	*22.5*	*4.0*	*11.6*	*14.9*
Total Men	7.2	20.5	4.6	11.0	14.1
Total Women	4.9	26.5	3.1	12.5	16.3

i) Migrants from the same department.
ii) Migrants from other departments.

A conclusion to this line of argument would be that the existence of a high wage, high status, modern sectof in the towns together with a level of family income high enough to support the young adult job seeker are sufficient to explain why urban unemployment is so high. It would follow from this argument that a tendency for urban unemployment to grow would be closely linked, on the one hand, to educational developments and, on the other, to the existence of relatively high wages in favoured job categories and growing real income among urban family groups[2].

It is perhaps clear on the basis of existing empirical knowlegde that no very firm conclusions can be justified on these important issues. In particular, studies which relate unemployment among young persons to family income and social level are one obvious gap in current knowledge[3]. Furthermore, one might question whether the traditional sector is open to all new entrants to the labour force ; in getting jobs at any level in less dev-

1. Other detailed surveys reporting similar results include the *Indian Sample Survey for Urban Areas* No. 53.

2. We examine in the next chapter the evidence regarding income differentials between different occupations. The existence of a high wage sector besides encouraging unemployment by creating excess demand for the favoured job categories may also directly provide a support base for the unemployed. This point is perhaps particularly important in Sub-Saharan Africa and is strikingly illustrated by Pfefferman [17] in the case of Senegal : his sample of 188 industrial wage workers were maintaining " at least 1,614 persons, excluding themselves, permanently at their homes : the average size of the extended family is ... 9.63 persons (including the wage earners themselves) ". Figures do not include temporary guests. Pfefferman's data also indicate that the size of the group supported is related to the level of individual wage earnings; in Berg's phrase [18] — " increments of income are followed by increments of kinsmen to share it ".

3. One study for Puerto Rico in 1959 [19] did however show that family income tended to be higher than average for the families to which unemployed workers belonged and that such families, on average, included more working members.

eloped countries, much depends on the infrastructure of personal and family connections. Thus, if those from families whose connections are with the organised or modern sector of the labour market cannot find jobs in this sector, perhaps it is impossible for them to get jobs elsewhere. This proposition could again be investigated in an appropriate sample survey. Finally, the temptation to over-generalise from too few cases is hard to resist, and the special characteristics of unemployment are more striking in the poorest cities than in places like Buenos Aires which are closer to developed countries in this respect ; again we have very little information from Africa on these issues.

It may be worth noting that even if, having regard to the special structure of the urban unemployed[1], urban rates of 10 per cent or 15 per cent unemployed do not represent the major crisis which they would in developed countries, nevertheless the corresponding rates of 20 per cent or 30 per cent among young people constitute a very serious waste of potential resources and an invitation to violence and political unrest.

Rural Unemployment

It is much more difficult to describe the unemployment situation in rural areas partly because, as we argued earlier, the conventional approach through sample survey enquiry is much less satisfactory but partly also because there is a pronounced lack of well conducted enquiry at the macro-economic level. What scattered studies there are tend to suggest quite considerable differences in employment situations from one country or region to another. Where the standard sample enquiries have been extended to the rural area the results, not surprisingly, indicate considerably lower levels of open unemployment than is found for urban areas.

Table 7 gives some comparisons for urban and rural rates of unemployment for survey enquiries and for censuses where the latter used definitions and were implemented in such a way as to provide *some* basis for a belief that unemployment was properly identified. But quite large differences between the Census and the Survey data reported for Venezuela and Panama suggest that the estimates (especially census estimates) should be treated with considerable reserve[2]. Even where investigation is thorough however rural unemployment rates might in general be expected to turn out very low.

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1. This point should not be overemphasised : in the United States, for example, unemployment is also relatively heavy among young age groups and a significant fraction of the total is accounted for by first time job seekers. However, one would hardly expect the United States to furnish an unemployment structure typical of an underdeveloped labour surplus economy.

2. It is not clear, for example, whether there was a significant change in definition applied in Iran between 1956 and 1966. Elsewhere in the Arab World, in Tunisia 1966 and in Algeria 1966, extraordinarily high rates of unemployment which seem to apply both to urban and rural areas are reported, although the statistics we have do not strictly permit the identification of rural and urban areas taken separately. For Algeria, however, if we take the departments of Alger and Oran as roughly " urban " and the remainder of the country as " rural " unemployment rates were : whole country (resident population) 33.6 per cent; Alger and Oran 26.6 per cent; and remaining departments 35.8 per cent. (Source : *Population Census 1966* for Algeria.) The Algerian definition of unemployment includes those working less than six days in the month preceding the census day (the month was March in most departments) and so is somewhat more inclusive than is usually the case. Subject to this qualification, Algeria, with one third of the active population unemployed, is clearly among the countries with the very highest rates of unemployment.

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TABLE III.7. A COMPARISON OF URBAN AND RURAL RATES OF UNEMPLOYMENT

		Urban Rate	Rural Rate	Notes
AFRICA :				
Cameroons	1964 Males	4.6	3.4	Survey
Morocco	1960	20.5	5.4	Census
Tanzania	1965	7.0	3.9	Survey
ASIA :				
Ceylon	1959/60	14.3	10.0	Survey
	1968	14.8	10.4	Survey
China (Taiwan)	1968	3.5	1.4	Survey
Korea	1965	12.7	3.1	Survey
India[1]	1961/62	3.2	3.9	Survey
Syria	1967	7.3	4.6	Survey
Iran	1956	4.5	1.8	Census
	1966	5.5	11.3	Census
Philippines	1967	13.1	6.9	Survey
West Malaysia	1967	11.6	7.4	Survey
AMERICA :				
Chile	1968	6.1	2.0	Survey
Honduras	1961	13.9	3.4	Census
Jamaica	1960	19.0[2]	12.4[3]	Census
Panama	1960	15.5	3.6	Census
	1967	9.3	2.8	Survey
Uruguay	1963	10.9	2.3	Census
Venezuela	1961	17.5	4.3	Census
	1968	6.5	3.1	Survey

1. The unemployed "available" but "not seeking" work are included in rural areas but not in urban areas. Deducting this group might reduce the rural percentage rate by about one third. The urban figure relates to the age group 15-60.
2. Kingston.
3. All Jamaica less Kingston.

Sources : See Appendix.

UNDEREMPLOYMENT STUDIES

If open unemployment is largely confined to groups in special economic circumstances, an obvious area to research for evidence of a wider involuntary unemployment problem is the work activity of the employed labour force. In particular, it is often argued that underemployment in rural areas is an important explanation for persistent net migration to towns where rates of open unemployment are much higher. A number of countries have instituted or maintained enquiries into "visible" underemployment[1] ; those seeking more work at going wages and unable to find it.

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Very high whole country rates were also found in Tunisia at 12 per cent or 15 per cent depending on whether family helpers are included in the active population or not. (Source : US AID document [20]), and here also high rates seem to apply both to rural and urban areas. The Tunisian figures would be even higher were those already working on essentially unemployment relief projects to be included as unemployed.

1. The terminology for types of unemployment is not yet well established; in general we use that suggested by the ILO in "*The measurement of underemployment*" [21].

TABLE III.8. VARIATIONS IN WEEKLY HOURS WORKED IN URBAN AREAS

Percentages of employed at work.

	Hours worked				
Ceylon, January 1968	*1-20*	*21-49*	*50+*		
Males	5.0	65.3	29.7		
Females	5,6	69.0	25.4		
Chile, December 1968	*1-14*	*15-34*	*35-40*	*41-48*	*49+*
Males	0.8	5.7	17.8	41.7	34.0
Females	2.1	11.8	15.4	31.9	38.8
China (*Taiwan*), 1966[1] :					
Non-agricultural industries	*1-17*	*18-41*	*42-48*	*49+*	
Males	2.2	4.6	35.6	57.6	
Females	5.0	10.2	31.9	52.9	
Korea, 1963-67 average :					
Non-farm households	*1-18*	*19-29*	*30-39*	*40-49*	*50+*
Both sexes.....	3.5	5.3	8.2	22.2	60.8
India, 1961/62.....	*1-14*	*15-28*	*29-42*	*43-56*	*57+*
Both sexes.....	2.9	6.5	14.9	56.5	19.2
Philippines, 1962 :					
Non-agricultural industries	*1-19*	*20-34*	*35-40*	*41-48*	*49+*
Males	3.4	7.8	21.3	32.5	35.0
Females	11.8	17.7	21.3	18.0	31.2
Singapore, 1966	*1-19*	*20-34*	*35-44*	*45-54*	*55+*
Both sexes.....	1.3	7.4	30.1	31.1	30.1
Tanzania, 1965	*1-14*	*15-29*	*30-39*	*40-48*	*49+*
Both sexes.....	2	4	10	42	42
Thailand, August-November 1968 :					
Bangkok-Thonburi	*1-19*	*20-29*	*30-39*	*40-49*	*50+*
Males	2.6	1.1	18.1	35.6	42.6
Females	2.1	2.8	19.8	27.6	47.7
Venezuela, March 1969	*1-14*	*15-30*	*31-40*	*41-48*	*49+*
Both sexes.....	0.4	10.0	30.0	39.1	20.5

1. The definition of employed workers excludes those working less than 18 hours wanting more work : we have added to the estimates of those working 1-17 hours all experienced unemployed whose last job was outside agriculture.

Sources : See Appendix.

These enquiries, perhaps surprisingly, have not so far produced results which indicate any vast quantity of visible underemployment. Practical objections to the procedure are rather serious ; short period surveys do not provide very reliable indicators of activity in agriculture because of seasonal variation, memory demands on self-employed respondents in particular are heavy and calculations of additional hours of work wanted rely on subjective

assessment of a particularly doubtful kind. But where attempts have been made to convert extra work demanded into an equivalent percentage of full time unemployed, the addition is usually rather meagre — 2 or 3 per cent — although the proportion of the employed labour force wanting *some* additional work may be quite high. Uncritical use of this ratio — " 30 per cent of the labour force is underemployed " etc. — is clearly very misleading without reference to the amount of extra work which is wanted and to the circumstances in which it is wanted. Usually found in these surveys is a wide range in actual hours worked, an average for hours worked which is often surprisingly high considering the presence of genuine short time working[1], and a relationship between time worked and extra time wanted which does not fall sharply at any particular level of actual hours worked. In particular, people wanting additional work are often quite numerous among those already working long hours. It may be inferred from all this that the concept of a normal work week does not fit too easily into the circumstances of less developed countries.

We consider first data relating to the urban sector. Table 8 illustrates the situation in regard to actual working hours.

The proportion working less than 40 hours per week seems to vary from under 10 per cent in the case of Taiwan up to perhaps 30 per cent[2] in the case of Venezuela. The equivalent average hours worked is more rarely reported but rough calculations and some estimates suggest that it is unlikely to be less than 40 hours per week for any of the studies reported above and for most of them considerably more.

It is perhaps worth adding as a rider to the table that the variability of wage work is usually a good deal less than for self-employed and family workers, though not necessarily higher on average (family workers are usually less intensively employed than other groups however). Young and very old workers can account for a considerable part of the group working short hours. Thus, in the Philippines some 39 per cent of male workers aged 10-14 worked less than 20 hours and 12 per cent of those aged between 15 and 19, while for groups aged between 20 and 64 years the corresponding average was under 2 per cent ; for those over 65, some 7 per cent worked less than 20 hours.

Finally, there is considerable variation in hours worked according to occupational groupings. We illustrate with data from a survey in Uruguay (Table 9).

It is suggested by these data that there is no very close connection between average hours worked and the desire for additional work ; clearly in a number of occupations the " full time " work week is a relatively short one. More generally, perhaps the most striking feature which seems to emerge from surveys is the importance among those wanting more work of the group already working long hours. Table 10 illustrates this directly with data for the Philippines.

Statistics like these can be interpreted in a number of ways, e.g. that a desire for more work on the part of those working long hours simply in-

1. For example, for Singapore, Oshima [15] excluded teachers from his calculation of the underemployed because although they were recorded as working short hours they were unlikely to want more work. This group alone accounted for about 40 per cent of those working less than 35 hours.
2. The proportion working 40 hours exactly is usually over 10 per cent of the total.

dicates that questions framed in this way will not receive sensible answers, or alternatively that the income situation of those working long hours may be little more satisfactory than those working short hours. In any event, the evidence (though admittedly there is not much of it) does not suggest that the gap between " hours worked " and hours " available for work " is as wide as some people have thought, particularly among those working few hours.

TABLE III.9. OCCUPATION AND HOURS WORKED : MONTEVIDEO, 1965

Occupation	Average Weekly hours worked	Percentage working less than 30 hours	Distribution of " short time[1] " workers	Percentage of " short time " workers wanting more work
	1	2	3	4
1. Professional and Technical.	30.6	43.4	18.6	35.1
2. Management and Administration	47.9	4.5	0.6	33.3
3. Clerical and Sales	39.6	27.3	39.3	32.2
4. Artisans and Operatives ...	41.7	10.6	21.6	79.4
5. Miscellaneous services[2]	40.9	25.7	19.8	36.6
Total	40.4	20.8	100	43.8

1. Less than 30 hours per week.
2. Includes armed forces, domestic workers etc.

Source : quoted by Lederman [10].

TABLE III.10. ADDITIONAL WORK WANTED, BY HOURS ALREADY WORKED : PHILIPPINES, MAY 1965

Percentages.

Urban Areas	Total	Males	Females
Employed at work	100	100	100
Wanted additional work : *Total*	*29.3*	*33.4*	*22.4*
Working less than : 20 hours	3.8	2.7	5.6
20-29 hours	3.5	3.7	3.2
30-39 hours	4.0	4.4	3.3
+ 40 hours	18.1	22.6	10.5

Source : Data from the Labour Force Survey, May 1965.

This is an important conclusion and one which does not emerge very clearly from the existing literature on underemployment. If justified (and there is clearly a need for more empirical evidence) it would imply that some of the objections to the application of conventional unemployment methodology expressed earlier in the chapter are not so serious after all — at least in relation to urban areas. But we will suggest later in the chapter that we should examine rather closely dimensions of the employment situation other than simple hours worked — in particular the productivity of labour and income — before assuming that the rate of open unemployment

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is *the* appropriate indicator in urban areas of the state of the labour market. This theme is taken up more extensively in Chapter IV.

One other group of workers which should be mentioned here are those classified as employed but not at work. In many areas this group accounts for between one and two per cent of the urban labour force and can therefore be almost as important as open unemployment in a country like India where unemployment as measured is very low. Typically, something over 60 per cent of the group give illness and injury or holiday as the reason for absence from work.

Underemployment in rural areas

TABLE III.11. HOURS WORKED IN RURAL AND URBAN AREAS — SURVEY DATA

	Percentages of employed persons working less than x hours		
	Rural	Urban	Notes
Ceylon, 1968			
Less than 20 hours :			
Male	10.7	5.0	
Female	17.5	5.6	
Chile, 1968			
Less than 41 hours :			
Male	18.2	24.3	
Female	31.5	29.3	
China (*Taiwan*), 1966			
Less than 42 hours :			Non-agricultural and agricultural workers
Male	4.8	5.2	
Female	19.1	12.1	
Korea, 1963/67 average			
Average less than 40 hours :			Farm and non-farm households
Both sexes	46.0	17.0	
India			
Less than 43 hours :			
1958/1959 Both sexes	41.2		
1961/1962 Both sexes		24.3	
Philippines, 1962			
Less than 40 hours :			Agricultural and non-agricultural industries
Male	30.4	14.8	
Female	71.2	36.7	
Tanzania, 1965			
Less than 40 hours :			
Both sexes	40	18	
Venezuela, 1969			
Less than 41 hours :			
Both sexes	39.3	40.4	

Sources : See Appendix.

Table 11 which provides some indication of the differences in hours worked between urban and rural areas for a few countries, shows the somewhat greater importance of low working hours in the rural sector.

The differences are usually considerably bigger for women than for men and greater in Asia than in Latin America. Few surveys however permit proper identification of the seasonal influence, though clearly if surveys are repeated sufficiently often there is no reason why seasonality in work input should not be distinguished. One case where surveys are sufficiently frequent is that of Korea. Kim [22] provides the following data :

TABLE III.12. LEVELS OF EMPLOYMENT BY SEASON : SOUTH KOREA

	Farm Households			Non-Farm Households		
	Average Hours Worked	Persons Employed	Total Hours Worked	Average Hours Worked	Persons Employed	Total Hours Worked
March	80.8	72.4	58.5	95.6	93.4	89.3
June	*100*	*100*	*100*	*100*	*100*	*100*
September	82.9	89.9	74.5	98.1	100.0	98.1
December	74.0	53.9	39.9	93.6	95.6	89.5

Source : Kim [22], from survey data, 1963-67.

Clearly when account is taken both of variation in hours worked and of variation in employment the seasonal factor is of considerable importance, especially in a situation where one crop (rice in this case) is predominant[1].

But despite the shorter and more variable work week in agriculture, the evidence is not too strong that a great volume of involuntary unemployment exists, though again there is little evidence to the contrary. We illustrate from a Philippines Survey, taken in May 1965 : May is a relatively slack month in agriculture (Table 13).

Perhaps the most striking general aspect of the survey (or for that matter census) results in that on the whole they do not conform to a widely help opinion about unemployment and underemployment in rural areas. They provide, in particular, little or no evidence for the commonly expressed view that labour has little or nothing to do for four to six months of the year in the rural sector[2]. In Korea for example Table 11 still shows a 40 per cent utilisation rate in the slackest period in farm households and this rate undoubtedly exaggerates the amount of unused labour because many additional workers who would not be available all the year round are drawn in at the peak season (June) used here as the " full utilisation " standard.

1. Surprisingly little seasonal variation is shown by Indian rural enquiries which also provide rural statistics relating to different times of the year. One problem in a large country is that seasonal variations tend to be different from one area to another so that the data for " All India " may conceal the seasonal effect.

2. Studies which have attempted to examine on a macro-economic scale activity during both slack and busy seasons include Ceylon, India, Malaya, Taiwan, South Korea, and the Philippines in Asia but there seem to be very few of them for West Asia or Latin America, though some have been undertaken in *non-Latin* America. A range of results bearing on these issues is summarised in *Measurement of Underemployment ILO, 1966* [21].

TABLE III.13. ADDITIONAL WORK WANTED, BY HOURS ALREADY WORKED : RURAL AREAS, THE PHILIPPINES, MAY 1965

Percentages

	Total	Males	Females
Employed at work	*100*	*100*	*100*
Not wanting extra work	72.5	71.6	74.7
Wanted additional work	27.5	28.4	25.3
Working less than : 20 hours	4.7	2.8	9.3
20-29 hours	3.6	3.3	4.2
30-39 hours	5.6	5.9	4.9
+ 40 hours	13.6	16.3	7.0

Source : Philippines Survey, May 1965.

The interpretation of this finding is however much more difficult. There are scattered but in total fairly numerous studies at the sub-regional or village level which suggest that the seasonal pattern in actual cultivation requirements for labour is extremely marked. Quite a few of these studies also suggest a low overall rate of working as well, specially in Africa[1]. Many of the better studies of this type however are very small scale indeed and while the behaviour of 15 or 20 farm families can provide the basis for interesting debate the policy significance of the results is very limited.

One other problem deserving particular mention is the treatment of activity not directly related to on-farm cultivation — which includes things like marketing, food preparation, (basic food processing is often done in the home) ; studies show both that these activities use up quite a lot of time and that they tend to offset the seasonal pattern of on-farm cultivation work. For example, Paglin [23] quotes data from the Indian Farm Management Board studies of the mid fifties for male adults in Indian agriculture as shown in Table 14.

A closely related issue is the intensity of work effort or labour input per hour in either on-farm work or other types of activity : this is a dimension which is entirely missed by survey type enquiries. Some writers have argued, because of these difficulties, that the study of labour utilisation in traditional or very low income rural areas cannot be successfully pursued using general survey techniques. Whether this view is accepted or not however seems to be mainly a matter of judgement in the present state of knowledge. Myrdal's[2] argument is evidenced by results obtained from the earlier rounds of sample enquiries in India and a particular survey for Pakistan, all of which were to some extent experimental. It is not clear that the quality of the enquiries presently conducted in the Philippines, Taiwan, South Korea, Malaya, Ceylon or India would justify the same conclusions.

1. See e.g. Reynauld *op. cit.* Chapter one, Clark [24], Crooke [25] and Luning [26]. Perhaps again the point to stress is the variability of labour utilisation revealed at the micro-economic level which is perhaps somewhat masked in more aggregative studies. Many of the authors of these studies stress that not much underemployment is strictly involuntary : for example on larger farms labour is often hired while family members are themselves working short hours.

2. Myrdal (*op. cit.* Chapter one) in particular heavily attacks the conventional concepts.

TABLE III.14. LABOUR INPUT OF ADULT MALES IN AGRICULTURE : INDIA

	West Bengal	Bombay		Uttar Pradesh	Punjab
		Ahmed nagar	Nasik		
	Days of eight hours labour				
Total	*266.5*	*299.3*	*328.9*	*269*	*286.6*
Social, family and business affairs	137.3	30.6	29.3	—[1]	21.1
On-farm activity	129.2	258.7	299.6	269	265.5

1. Not included.
Source : Paglin [23], quoted from Farm Management Board Surveys for 1956/57.

SURPLUS LABOUR APPROACHES

Partly because survey procedures are considered unsatisfactory and partly also because not much survey information has been available, a good deal of work has gone into the measurement of what is variously called surplus labour or disguised or hidden unemployment, especially in agriculture.

Much measurement work has been concerned to assess the quantum of involuntary unemployment which may be either missed by survey enquiry or which is unknown because surveys have not been undertaken. These measures relate to what is sometimes called " static " surplus[1]. They are based on a consideration of how labour time is actually used in comparison with what, in local circumstances, might be the amount of labour which could " reasonably " be provided.

In our judgement this approach offers no advantage over well conducted survey estimation and indeed the problems which arise in constructing such estimates include precisely those which render survey results dubious. Chief among such problems are (*a*) what participation rate or set of rates to choose in defining the surplus and (*b*) what current activities are to be counted as work activities.

The second problem we have already touched upon in dealing with survey estimates of rural employment and static surplus calculations offer little new guidance. The emphasis on on-farm or field work typical in such studies can be useful however, in recalling the importance of this problem ; by the nature of the method, surveys can rarely get beyond recording what the respondent says his total work activity has been. On the other hand, surplus labour calculations can be extremely misleading where off-farm activities are neglected entirely and these there is a tendency to ignore.

The participation rate problem is the more difficult issue. It seems clear that the amount of work time likely to be available in total will be some function of the wage offered ; even if adult males are rather rigid in work norms, women, old and young household-members are likely to be more flexible. The amount of work forthcoming is also likely to depend on the type of extra work available and under what conditions it is offered

1. See Rosenstein-Rodan, 1957 [27].

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— for example, whether it is " light " work suitable for women or whether it is work which can be done on or off the farm, etc. For these reasons it does not seem possible to arrive at any estimate of surplus without reference to specific assumptions in regard to its utilisation but such assumptions are in fact rarely explicitly made.

Calculations of " dynamic " labour surplus do have a considerable advantage over survey techniques or static surplus calculations in that they attempt specifically to allow for disguised unemployment i.e. where part of the time spent at work, or some part of the employed labour force, is effectively non-productive.

We have already argued that time worked in low income situations is only one dimension of labour input. In particular, when the opportunity cost of work time is low, it is likely that more time will be spent at work than otherwise ; if work intensity were increased the same output could be got with fewer work hours[1]. Similarly, where holdings are fragmented, much time can be spent between cultivated areas which would be saved if holdings could be consolidated. Much evidence suggests that larger farms are cultivated much more extensively than small farms so that while labour is more intensively used on small farms and yields are higher, output per man hour is lower. Land reform could promote a better distribution of available labour over land, and raise output per unit of labour. If a lot of work time is in fact wasted because of these sorts of inefficiencies then the results of static calculations or surveys are seriously misleading. The difficulty with dynamic surplus concepts, however, is to know where to stop. Clearly, once begun with structural and institutional changes which raise labour productivity it is a short step to considering other changes — for example in cultivation practises — which might yield also large increases in productivity and hence generate large labour surpluses. In practice these sorts of change, for example, the introduction of new seeds and fertiliser or simple tools, may in fact be a good deal easier to implement than organisational changes. Thus once the Pandora's box of possible assumptions in regard to productivity change is opened convincing estimates are hard to establish. As well, the reader is often left in some doubt as to whether great or small changes are needed in, for example, incentives, institutions, or in health and nutrition, to realise the surplus. Thus, as with static surplus, dynamic surpluses can only be useful if a particular change in circumstances is envisaged and details of how it is to be brought about are specified[2].

A possibility which has attracted a good deal of attention in the literature is that the marginal product of labour in traditional agriculture is actually zero. Zero marginal product can be interpreted in two ways : (*i*) that the value of extra work for a day or an hour is actually zero or (*ii*) that some people are marginal in the sense that simply removing them would stimulate those remaining to compensate by working harder.

The second is perhaps the more plausible formulation. In this case,

1. Professor Winkleman, of Iowa State University, has studied differences in farm practise among some very small and less small Mexican farms. His findings indicate that the very small farms use about one sixth more labour time per hectare than do the larger farms although techniques and yields are about the same.

2. See Myrdal (*op. cit.* Chapter 1) especially Part V, Chapter 21 for a similar view. Some economists have argued that the assumption of surplus labour can be not only misleading but positively dangerous : see McLoughlin's discussion [28] in the context of sub-Saharan Africa.

following the withdrawal of marginal workers (who we will assume to have, on average, the same economic characteristics as those who remain), output will be unchanged if the total number of hours worked is unchanged[1].

It is probably true to say that continuing interest in these possibilities owes more to theoretical convenience than to any strong support from empirical investigations. A number of models[2] embody as a leading feature the assumption that there is surplus labour in traditional sectors which becomes available to the modern sector at a constant real wage. But where labour force in total grows at 2 or 3 per cent per annum the supply of workers to the modern sector may anyway be asured and whether the supply is perfectly elastic (" unlimited ") or only very nearly so, may not make a great difference either, although some convenient simplifications in the arithmetic of the models may disappear.

But the assumptions required in regard to peasant behaviour for the extra work effort needed to materialise are somewhat special even in the second case[3]. In brief, if peasants try to maximise happiness or utility, if in pursuit of this goal they prefer to work as little as possible and to consume as much as possible, then " doing the best they can " with available resources would imply an attempt to equate marginal gains in utility with marginal losses from additional work. By this rule, peasants would work up to the point where the extra satisfaction obtained by consuming the fruit of the last hours work input is just offset by the disutility associated with the last hours work.

If we suppose further that (*a*) the marginal disutility associated with increasing work effort is always positive and increasing ; (*b*) the marginal utility associated with increase in consumption always decreases and (*c*) the marginal product of labour input diminishes as more labour is added in production, then equilibrium solutions in which the marginal product of labour is zero cannot arise[4].

Possible objections to the " realism " of these assumptions are as follows :

i) The marginal apparatus does not apply because traditional households do not behave " rationally " ; for example, farm households might be motivated by some local ethic always to keep farms under full cultivation.

ii) Similarly, it might be supposed that neither marginal utility nor disutility would have the usual properties in low income situations : there is certainly nothing to prevent zero marginal product from emerging if both are constant or if the marginal utility of consumption is actually increasing over the relevant range.

1. Assuming also that the intensity of labour input per work hour is fixed.
2. Especially the models of Lewis, 1954 [29] and Fei and Ranis, 1963 [30].
3. We draw here on two recent papers by Sen [31] and Wellisz [32].
4. For the labour which is removed to be " surplus " those who remain must work harder than before. But, by assumption (*a*) marginal disutility will increase with greater work effort. Moreover, unless taxation is increased or workers who leave take with them their rights to farm consumption, average product and average consumption will increase for members who remain and therefore, by assumption (*b*), marginal utility will tend to fall. Hence, if output and therefore marginal product are unchanged higher income per farm worker and higher work effort imply that the disutility of work at the margin exceeds the utility of consumption at the margin. Adjusting to a new equilibrium in which the two are equated must therefore involve some fall in individual effort, a fortiori in total work effort, and therefore of output.

While admitting these cases are theoretical possibilities, however, we have yet to see convincing general arguments to support them[1].

iii) A stronger case can be built along the following lines. Where consumption is very low it is possible, indeed probable, that work effort is limited by food intake and poor health. In terms of the argument above, the marginal disutility of effort may be inversely related to consumption, so that even if, in a sense, the marginal utility of additional consumption falls as consumption increases, this could be offset by downward shifts in the schedule of the marginal disutility of effort[2]. The relationship between work and food intake is more thoroughly explored in Chapter IV : one conclusion worth noting here is that improvement from better nutrition is probably a long term process.

Some writers have widened the terms of reference of the surplus labour issue to allow for tax and other incentives. If taxation is introduced as labour is " removed " from agriculture it is possible (in principle at least) to eliminate the disincentive effects of diminishing marginal utility by preventing a rise in individual incomes. The tax would, however, need to be of the poll tax form so as not to interfere with marginal incentives ; furthermore, if we adhere to strictly increasing marginal disutility of effort, consumption at the old level of output would need to be lower than in the original situation[3]. Alternatively, certain public expenditure programmes could create new wants and thus raise the marginal utility schedule — the desire to educate children is one apparently effective incentive to get rural Africans to supplement household income. But most theoreticians have been content to postulate surplus labour without exploration of the side conditions or policy measures which may be needed to realise it. The simplest assumption, that of marginal product per man hour at zero, has often been adopted.

Empirical studies of labour's marginal product in agriculture

It is perhaps already clear that the conditions under which zero marginal product might exist are not easily related to testable propositions. In particular, all attempts to test for surplus labour of this type which we know about concentrate on establishing whether or not the marginal product of labour in the man-hour or man-day sense is zero[4]. But as we have seen this condition is not a necessary condition for surplus labour to occur, nor does it tell us how large the element of surplus is.

Nevertheless, it is reasonable to suppose *some* surplus labour where marginal product is zero, so the results of these " tests " are interesting.

1. Since many service workers need to be at work whether there are any customers to serve or not it might be argued that the assumption of increasing disutility of effort is less appealing here than in application to traditional agriculture.

2. It is probably most sensible to envisage this process working through a combination of longer hours at work and a more purposeful application of effort during work. See Leibenstein [23] for an essentially similar argument. The phenomenon helps to explain why the " free " meal element in daily wages for hired labour is often important.

3. With marginal product unchanged, the marginal disutility of more work is offset only by higher marginal utility of consumption, which implies less consumption than in the original situation. Note that the taxation argument is directly contrary to the food limitation argument immediately preceding it.

4. Using data on output, labour and other inputs to construct a production function. The test is whether the coefficient on labour input (either the marginal product or elasticity) is significantly different from zero.

With one rather striking exception, however, none of the studies we have seen would seem to indicate zero marginal products[1]. The exception is presented in a very recent article by Desai and Mazumdar [34] who have taken a sample of Indian farms and very sensibly divided it into those who hired labour and those who did not and computed separate production functions for each group[2]. Differences between the groups are striking ; whereas for the group hiring labour the marginal product of labour (in total) is positive (and significant) for the group who did not hire labour the corresponding labour coefficient is usually negative and uniformly non-significant. A number of interesting differences (and similarities) between the economic characteristics of the two groups of farms are also reported : for example, groups did not, on average, differ greatly in farm or family size (though the man/land ratio is less favourable on the zero marginal product farms) but did differ considerably in the value of major and minor implements available and in the extent of double cropping (both highly unfavourable to zero marginal product farms)[3]. Also worth noting is their finding that " surplus labour " farms were largely grouped in particular villages (all the villages sampled belong to a given region), which suggests a possible solution to the apparent difficulty suggested by more aggregative data where zero marginal product on the farm seems to coexist with possibilities of employment at positive wages elsewhere. If labour is immobile " surplus labour " villages may co-exist with villages where labour is scarce.

It would be useful if some more systematic attempt could be made to test for the possibility of zero marginal product or surplus labour in the second sense we have described — i.e. where the removal of some men would stimulate those remaining to work harder. It is perhaps not impossible to devise suitable tests or even come across data which would enable such tests to be made. Suppose, for example, that a new land settlement scheme reduces available labour on a specified group of farms (some farms of the same area not being affected). It should be possible by comparison of subsequent performance between these farms and the control group to establish whether or not the labour removed to the new settlement had been in surplus on the farms where they were previously working.

The Income Approach to Underemployment

Whether or not we agree that a particular situation exhibits labour

1. Needless to say, much of the data used in these tests is highly unreliable. Recent studies reporting such tests include Hansen [25], Yotopoulos [36], Yotopoulos and Wise [37], Luning [26] and Rabbani [28], some recent Indian studies are referred to in Wellitsz [32] and older studies are reviewed in Kao, Anschel and Eicher [39] and in Kenadjian [40]. Wellitsz points out that studies of cropping practise often suggest ways in which use of more labour (e.g. for transplanting and weeding) would add to output, thus also tending to refute the zero marginal product assumption.

2. The marginal product of family labour can hardly be zero if workers are hired.

3. As the authors point out, estimates of the labour co-efficient may be biased downwards where the data relate to labour input and output over a year. Such a procedure pools data relating to the " slack " agricultural seasons where it may well be that marginal product is zero and " busy " seasons (harvesting or planting) where marginal product may be positive. If " labour surplus " means a removable surplus of manpower, marginal product must be zero in *both* seasons, hence the possibility of bias from pooled data. While the arguments are too complicated to develop here, the authors' claim that this difficulty is resolved in their treatment seems doubtful, partly because of systematic differences in the extent of double cropping, which suggest systematic differences in the seasonal distribution of labour time between the two groups of farms.

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surplus (according to one or more of the several of the available concepts), we can at least agree that the basic sine qua non for the condition is low productivity working. Indeed we would argue that a more comprehensive focus on the central problems in situations of this kind is encouraged by direct statements in terms of productivity rather than in terms of surplus labour. Certainly, the earlier concern with a freely available supply of labour to the modern sector which encouraged the surplus labour perspective is now inappropriate.

An alternative approach which, we believe, offers more hope of substantial improvement in existing knowledge about the employment situation, would reinstate the survey technique but make work income and the circumstances in which it is derived the central subject for investigation rather than employment and unemployment as such.

An operational procedure would be (*i*) to calculate average income among fully employed workers ; (*ii*) to take one half or one third of the average so defined and to identify the group of full-time (and potential full-time) workers whose income falls below this level and (*iii*) examine the circumstances of this group — activities (and the lack of them) ; status-employees/self-employed, etc ; sociological and demographic features — race, family size, sex, age and so on. A practical yardstick of employment situation is then the percentage of the low paid workers in the total and a worsening of improvement in the situation would be judged by reference to increases or falls in the proportion over time. Alternatively, some fixed level of real income could be taken as the dividing line and development over time judged by reference to changes in the workers who receive less than this income. The unemployed would of course be included under this approach.

There are well known and difficult problems in rigorous definition of income levels and in getting accurate income data by sample enquiry. But we are not convinced that these difficulties are any more serious than those we have examined and commented upon in connection with the measurement of unemployment. No doubt, it would be difficult to conduct international comparisons on this basis, but again it is difficult anyway to do this in respect of unemployment levels. Finally, it is worth pointing out that the definition of low income need not be confused with some concept of minimum income which relates to the " needs of workers " and which quickly runs into difficulties relating to, for example, physiological versus psychological needs, requirements for large and small families, etc[1]. Low income among fully employed people, like unemployment itself may be just as indicative of wasted labour potential as of poverty.

An example which embodies some of the features of the proposed income approach is shown below for the Lima-Callao region of Peru. In this case 1,200 soles per month was the statutory minimum wage of the time (which was considerably below the average wage for industrial workers).

Applying the conventional approach underemployment would be confined to the categories wanting more work — that is (*4*) + (*6*) — equal to *6.1* per cent of the labour force and much less than this expressed as full time equivalent unemployed. The total of unemployed and underem-

1. See ILO *Minimum wage fixing and economic deveopment* [41], Chapter III for an extended discussion of these points.

ployed, equivalent to perhaps 6 per cent of the labour force, would not suggest a very serious employment problem but the finding with respect to income indicates a much larger " underemployed " group when low income per se is included as a category.

TABLE III.15. ECONOMICALLY ACTIVE POPULATION IN THE LIMA-CALLAO METROPOLITAN AREA, 1967

Group	Characteristics of Group	Per cent of Economically Active Population	
1	Income above 1,200 soles/month, works more than 35 hours/ week	64.7	
2	Income above 1,200 soles/month, works less than 35 hours/ week, does not want more work	3.3	
3	Income below 1,200 soles/month, works less than 35 hours/ week, does not want more work	2.2	
	Total adequately employed		*70.2*
4	Income above 1,200 soles/month, works less than 35 hours/ week, wants more work	3.6	
5	Income below 1,200 soles/month, works more than 35 hours/ week	19.5	
6	Income below 1,200 soles/month, works less than 35 hours/ week, wants more work	2.5	
	Total underemployed		*25.6*
	Unemployed		4.2
	TOTAL		100

Source : Peru Survey [42].

It is possible to criticise the conventional " physical " approach to employment problems embodied in labour force and unemployment calculations of the type we have discussed on grounds other than those relating to the purely technical problems which limit the application of these methods in less developed countries. Consider first measured involuntary unemployment as an index of labour utilisation.

Where differences in full time or normal hours worked per person employed and in labour efficiency are small the ratio of persons seeking work or more work to persons at work and seeking work would provide a reasonable indication of quantitative under-utilisation of labour resources, at least in the short term. This would still be true where variations in hours worked and labour efficiency are wide if the characteristics of the group seeking work are similar on average to those at work, that is, if the group seeking work is made up of people on average as efficient as people at work and who seek on average the same amount of work as is being done by those at work. But it must surely be conceded that these conditions are so stringent that even in developed countries the index of unemployment is not a very good indicator of the state of utilisation of labour resources ; the allocation of work among those who want it is clearly not a random process so that

those at work are usually on average much superior in efficiency to those who are seeking it. In developing countries, where variations in time worked and human efficiency are enormous and where the demand for extra work by no means arises from a representative group of workers, the weakness of the index is self-evident.

Alternatively, involuntary unemployment may be taken as an index of the social adequacy of employment opportunities. Given the terms or set of terms at which work is exchanged for income, involuntary unemployment indicates the extent to which individuals are prevented from satisfying their preferences at these terms. Clearly however, the terms at which work is exchanged for income (and satisfactions obtained from work) are also very important determinants of the social adequacy of employment opportunities and, from this point of view too, it is easy to see why a number of economists[1] have doubted the wisdom of paying much attention to measures of involuntary unemployment in poor countries. Because rates of exchange between work and income are so low, the extent to which the market provides employment at these terms for all who want it may be a minor element in the overall social problem.

But our conclusion is not that such measurements should be abandoned as useless ; the unemployed group, at least where it turns out to be large, does form an important element in the overall problem and finding out about the economic and social characteristics of this unemployed group is essential in deciding what is to be done about the problem.

1. In particular G. Myrdal (*op. cit.* Chapter I); see especially Vol. II, part 5.

Chapter IV

INCOME DISTRIBUTION, NUTRITION AND WORKING EFFICIENCY

In this Chapter we try to explore some aspects of the income element of the employment problem in developing countries. This is an area where international comparison of situations is more than usually difficult and for which only certain aspects, not necessarily those which are most important from the point of view of a particular country, lend themselves to this sort of treatment.

Income Distribution and Relative Earnings

Overall income distribution

Most available evidence suggests that the variation in pre-tax family or individual income in less developed countries is at least as great as that found in developed countries while offsets to income inequality — progressive taxation and social welfare expenditures — work a good deal less strongly[1].

Statistics of overall income distribution are shown in Table 1. They suggest that in many less developed countries, the bottom 50 per cent of families receive roughly between one quarter and two fifths of average family income, and the poorest families a good deal less[2]. There is some tendency for the bottom groups in Asia to get a rather bigger share than in Latin America, probably because average incomes in Asia are a good deal closer to the subsistence floor. Almost everywhere a very large proportion of total income is attributed to the richest families, again more so in Latin America than Asia probably because in the former more capital is privately owned and ownership itself more concentrated ; on the other hand the highly skewed distributions found for African countries reflect more the importance of a high income expatriate group.

Statistics apart, great inequality in economic circumstances is among the most widely commented upon features of life in less developed countries.

How is the degree of inequality in overall income distribution to be " explained " in terms of the distributions of labour and capital incomes from which the overall distribution is formed ?

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1. A recent quantitative study of social expenditure and taxes is by Paukert [1].
2. One source of bias in these studies is that the poorest groups are often found in rural areas where prices may be significantly lower for important wage goods so that real incomes are underestimated; underestimation is also common in dealing with subsistence production. On the other hand, high incomes are almost certainly widely understated as well. For more detail on these issues see Kuznets [2].

TABLE IV.1. INCOME DISTRIBUTIONS IN LESS DEVELOPED COUNTRIES[1]

Income receivers	Lowest 20 %	Lowest 50 %	Lowest 60 %	Highest 20 %	Highest 10 %
	Percentage of total income received				
LATIN AMERICA :					
H Argentina (1963)	7		32	50	37
H Brazil (1960)	6	20	26	56	42
H Chile (1960)		15,6			
H Colombia (1960)	6	20		57	43
H Mexico (1963-64)	4	15		59	41
H Venezuela (1960)		17			
ASIA :					
H Ceylon (1963)	5	20	30	52	37
India (mid 1950s)[2]	4-8	20-28	27-36	42-52	28-36
H Pakistan (1963-64)	7	25	33	45	30
H Philippines (1965)	4		23	57	40
H Taiwan (1964)	8	28	37	41	26
AFRICA :					
I Congo (Brazzaville) (1958)				54	44
I Gabon (1960)				71	60
I Madagascar (1960)					50
I Senegal (1960)		16		64	48
H USA (1962)	6	23	31	48	34

1. Income in general refers to pre-tax income of Individual (*I*) or Family Units (*H*).
2. Various estimates have been made for India, as indicated by the ranges shown.

Sources : See Appendix.

There is to date remarkably little empirically based analysis of income distributions in less developed countries, partly no doubt because of the extreme difficulties of obtaining information about capital incomes which are accentuated by the importance of the mixed labour/capital income self-employed group. What little evidence there is suggests perhaps that the rentier group proper is small in total though it accounts for an important group of very high income receivers. Within the large group of self-employed and employers, differences in capital and land clearly account for most of the enormous spread of incomes[1].

Occupational differentials :

Similarly there is not nearly enough functional analysis of income distributions which include data for the self-employed groups to arrive at any firm conclusions on the range for occupational and status differences, but what little there is does tend to confirm the guesses of informed opinion. Lowest in the scale are unskilled landless rural labour groups followed by, or along with, domestic service occupations, and workers in traditional handcraft industry. Self-employed and working proprietors are spread through-

1. See Morrisson [3], Part 2, Chapter 1, It has been estimated for Latin America that 98,000 landowners own 62 per cent of total available agricultural land, see Delgado [4].

out the income scale, including some of the lowest incomes (those with very little land or capital) as well as probably most of the highest. Wage employments in modern industry occupy the middle ground, together with clerks, and the minor civil servants[1]. Toward the top of the scale are found members of the professional groups — managers, senior civil servants and expatriates.

Reasonably full data on sectoral and status group average earnings for Mexico shown in Table 2 provide an illustration of the sort of data needed and a useful reminder of the importance of differences within sectors which are sometimes neglected, or insufficiently emphasised, when overall sectoral averages of output per man or value added are used as indicators. Clearly differences between groups of different status and industry are enormous in comparison with differences in developed countries. Even so, the

TABLE IV.2. SECTORAL AND STATUS DIFFERENCES IN EARNINGS : 1963/64 MEXICO

	National average	Operatives	Employees	Self-employed	Employers Entrepreneurs
All sectors	=100[1]	62	189	105	458
Agriculture	64	39	92	86	120
Mining	144	121	202	254	—
Manufacturing	127	92	256	154	556
Construction	153	56	220	193	1,000
Public utilities	134	110	165	126	—
Commerce	134	100	179	116	467
Transport	113	96	123	156	333
Services	135	63	190	188	1,950

1. Equal to 1,278 pesos per month.
Source : Estudios sobre la Distribucion... [7], page 200, derived from Table 44.

averages themselves conceal very considerable differences between people in similar occupational groups, especially those in the self-employed categories. An illustration of the importance of these differences is provided by data from an Argentine survey (Table 3). All this suggests that it is extremely difficult to arrive at meaningful summary statistics based on occupation or status to describe differentials[2]. There is, however, no doubt that workers at the bottom of the scale include important groups of those outside the wage earning sector and that differentials between these and groups inside

1. For this group, there are often important fringe benefits — pensions, holidays, sickness pay, bonuses, which can add 50 per cent to the wage in some industries and which are not normally taken account of in income surveys based on household enquiries. See Paukert [1] and Berg [5] for further discussion; for examples see almost any issue of " Labour Developments Abroad " [6].

2. One further difficulty which deserves mention is the considerable extent to which income is derived from secondary occupations; for example, the household survey for Ceylon [8] provides statistics showing that income from the primary occupation as a proportion of total (personal) income varied between 68 per cent for agricultural owner or tenant farmers to 98 per cent for technical workers, the overall average being 73 per cent.

TABLE IV.3. VARIATION IN OCCUPATIONAL EARNINGS : ARGENTINA 1961

Income receivers, grouped by level of income received	Agriculture		Manufacturing			Commerce	
	Wage earners	Self employed	Wage earners		Self employed	Wage earners	Self employed
			Operatives	Employees			
Lowest 20 per cent of income	40	11	12	7	19	21	—
21-40	46	14	20	11	8	32	4
41-60	10	14	28	21	10	15	11
61-80	3	16	26	25	15	19	28
Highest 20 per cent of incomes	—	45	14	36	49	14	56
	100	100	100	100	100	100	100
Percentage of all income receivers	*9.2*	*5.6*	*17.4*	*2.4*	*3.2*	*5.0*	*4.6*

	Services (Domestic)	Services (Government)	All Working Groups	
	Wage earners	Wage earners	Wage earners	Self employed
0-20	70	5	20	10
21-40	27	11	23	9
41-60	3	30	22	14
61-80	—	34	21	21
81-100	—	20	14	47
	100	100	100	100
Percentage of all income receivers	*5.2*	*10.0*	*65.4*	*21.6*

1. Includes mining and construction.

Source : Estudios sobre la Distribucion... [7], p. 43, derived from Table 8.

the wage sector are at least as large as the better documented differentials within wage employment[1].

Professor Berg's recent review [5] provides an excellent account of material available on wage employment differentials. Briefly summarised, the evidence he provides suggests that premia for middle level educational qualifications and manual skills provide earning levels approximately two to three times those of unskilled (urban) workers, considerably higher than in developed countries. For historical and social as well as economic reasons differentials in favour of managerial and top level administrators are often very high indeed, especially when account is taken of low and not very progressive direct taxation. These differentials tend to be bigger the lower the general level of development, partly because of greater relative scarcity, partly also through the general influence of the international market for qualified people. Again care is needed when interpreting these statistics since even when dealing with wages for seemingly well-defined occupations within particular localities — single towns, for example — differences in earnings between people doing the same job in the private sector are often as large as the inter-occupational differences ; nothing like a well-informed organised labour market seems to exist even for wage earners.

Given considerable differentials in favour of skill and education and given that the opportunity to exercise these skills exists mainly in towns, it is not surprising to find a substantial income differential in favour of urban areas. The earnings differential itself is almost certainly augmented by net income flows from country to town, because, as we have seen, the rich get a very large slice of available income, including rural income from land ownership, and usually prefer to live in towns. Indicators of various kinds point to the existence of the income differential — direct calculation of urban per capita and rural per capita incomes, comparison of rural and urban incomes for similar occupational groups, availabilities of social services — educational and health services in particular — the relative quality of urban and rural diets, relative ownership of consumer durables, etc. Underlining these comparisons is the widely observed and considerable movement of population into urban areas which are in consequence growing extremely rapidly[2].

There is also evidence of considerable differentials both in income and fringe benefits between workers in certain industries and others, which are hard to account for on grounds of education or skill difference. It is

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1. Some indirect evidence is available through the study of rural urban differentials. Other illustrations beside those available from the sources for Table 1, include material discussed in papers by Aziz and Amin (See Smith [9]). A differential factor of 2 to 4 is sometimes mentioned as a rough approximation to the average income gap between rural peasants and urban unskilled workers. Morrisson [3] has detailed estimates for francophone African countries which suggest a differential factor between wage and salary receivers and earnings in traditional agriculture of about 10, and between traditional non-agriculture and traditional agriculture a factor of about 2 ½ (see his Table 43, Chapter 2).

2. On income differentials, Bose [10] estimates rural per capita income at 37 per cent of urban per capita income in East Pakistan (1963/64); Hassan Riad estimates urban income four times higher per capita than rural income in Egypt (1960) and a similar ratio for the Ivory Coast (1965) was put at 8 by Amin, see Smith [9], and a 1963 Household Survey for Ceylon [8] shows an urban differential factor at more than 2 in favour of urban areas; for Brazil (1960) rough approximations based on regional data suggest the factor that there must be at least 3 and for India a recent estimates, by Rao [11], puts the factor at 2 ½, and the same factor was found for the Philippines in 1965 from household survey data [12] and for Venezuela in 1962 [13] ,between big towns and rural areas.

difficult to supply hard figures however partly because these differentials are not consistently applied across occupational groupings, nor do they necessarily take the same forms in different countries or over time[1]. Notable features are the tendency for a group of high wage, modern, capital intensive and often foreign owned enterprises to act as pace makers in granting or acceding to wage claims, and to claims for fringe benefits, which can then be used to exert leverage on the rest of organised industry. Export based firms — mines, petroleum and processing industries are often leaders in this respect[2]. Government policy too has been important particularly in respect of its own employees who anyway form a large fraction of the urban modern sectors.

Minimum wage and other social legislation on working conditions, however laudable in intention, are always much easier to implement and to police in urban areas and thus tend to increase the gap between town and country. Of necessity also much legislation of this type can only apply to the large scale wage earning sector. The regulation of working conditions and minimum wages seems a good deal more extensive in Latin America and in Africa than in Asia, though exceptions to this exceedingly broad generalisation are easy to find. In some countries the influence of minimum wage legislation especially for unskilled urban wages is extremely important[3].

Trends in income and earnings

Data or studies concerning trends in income distribution are almost entirely lacking, but we have been unable to find in the recent literature grounds for optimism in this respect : indeed the general consensus of opinion would seem to be that income distribution has probably become more unequal in most important countries and that the income situation of the poorest groups in both rural and urban areas has changed very little in real terms[4].

As so often happens, however, this fairly broad consensus of opinion rests on a remarkably slim factual basis. In particular, there seems to be very little indeed about trends in capital incomes, about tendencies toward or away from concentration of ownership of capital assets or about trends in rates of profit on such assets. Somewhat more is known, however, about trends within the wage sector.

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1. Turner and Jackson [14] indicate considerably greater instability of relative earnings in less developed countries in terms of either structural stability over time or wage change linkages; thus, with a coefficient of 1 representing absolute stability, the index for a group of 28 developing countries was estimated at 0.63 for structural stability (0.9 in developed countries) and only 0.16 on the linkage basis (0.53 in developing countries).

2. For examples of such differentials and further discussion see Berg [5]; Frank *op. cit.* Chapter 2; Turner [15]; Reynolds and Gregory [16], among many others.

3. See the investigations of Dudley Jackson reported as Appendix 1 of *Minimum wage fixing and economic development* op. cit. Chapter 3.

4. There are clearly some exceptions to this generalisation : for example, statistics suggest that in Ceylon and the Philippines income distributions have not worsened while in Taiwan a shift toward greater equality occurred as a result of the thorough going land reforms of the 1950s. General material relevant to the income distribution issue is provided in Smith [17]; for Asia, see Myrdal (*op. cit.*, Chapter One) especially Chapters 12 and 16; for Latin America, *Estudios sobre la distribucion del Ingreso en America Latina*, ECLA [7], and for Africa, Morrison [3]. See also the recent UNSRID study of six countries by Baster and Scott [18], Rao's paper [11] for India, Bose [10] for Pakistan and the 1967 UN Report on the World Social Situation [19].

Berg [5] and Taira [20] report some tendency for unskilled workers to have improved their position relative to skilled workers and for manual wage labour in the organised sector to have narrowed the gap between their earnings and those of " white collar " workers. Institutional and particularly government influence seems to have had more effect here than market forces. The gaps, however, remain wide in relation to the patterns typical of developed countries.

TABLE IV.4. DIFFERENTIALS FOR SKILL AMONG MANUAL WORKERS

	Ratio of skilled unskilled wages		Ratio of skilled unskilled wages
AFRICA (1960-62) :		LATIN AMERICA (1958-62) :	
Algeria	2.01	Argentina	1.32
Congo (Brazzaville)	2.87	Brazil	1.84
Congo (Kinshasa)	2.68	Chile	2.09
Ghana	2.40	Colombia	1.81
Ivory Coast	1.97	Mexico	2.12
Nigeria	1.57	Peru	1.71
Senegal	2.53	Venezuela	1.86
Tanzania	2.11		
Tunisia	1.79	ASIA :	
		Hong Kong, 1962	1.75
UK, 1962	1.18	India, 1959	1.68
France, 1962	1.39	Pakistan, 1962	1.59
		Philippines, 1961	1.40

Source : Berg [5], based mainly on ILO data, with the Philippines added from Ruprecht's data [21].

This evidence suggests that considerable care is needed in statements about income distribution : some groups well below the highest levels may have improved their relative position significantly even if groups at the bottom of the income scale have not. If this is true, however, problems of horizontal equity are likely to be particularly severe and there are obvious implications for rural to urban migration of a tendency for some low skill groups in urban areas to improve their position relative to their rural counterparts.

Some notion of the extent to which industrial wages have risen in some countries (principally in Africa and Latin America) is provided by Table 5. The wage figures are necessarily crude approximations to reality and reflect to varying degrees wage movements within the " organised " industry sector proper. Nevertheless, one is tempted to link high rates of urban unemployment and heavy migration with these movements ; possibly the difference in wage experience between Colombia and Peru is connected with the difference in rates of open unemployment reported in Chapter 3 for Bogota and Lima, and the contrast between Ceylon on the one hand and India and Taiwan on the other is also consistent with differences in rates of urban unemployment in these countries. But one is hard put to fit the Philippines into such a model.

TABLE IV.5. TRENDS IN MANUFACTURING REAL WAGES AND PER CAPITA PRODUCT 1956-1964

Annual average rates.

	Wages	GNP per capita	
AMERICA :			
Argentina	1.4	1.2	
Brazil	1.6	2.5	
Colombia	7.4	1.2	
Jamaica	6.0	2.3	(1957-1964)
Mexico	5.5	2.6	
Peru	1.6	3.4	(1957-1964)
AFRICA :			
Ghana	1.6	1.7	
Kenya	3.8	—0.4	(1960-1964)
Nigeria	9.3	2.4	(1956-1960)
Tanzania	12.3	1.5	
ASIA :			
Ceylon	4.5	1.2	
India	—1.7	2.3	
Pakistan	2.2	2.3	
Philippines	—2.0	1.3	
South Korea	0.2	3.3	
Taiwan	2.7	4.3	

Source : Smith [9], based on ILO wage statistics and OECD *National Accounts of Less Developed Countries,* op. cit., Chapter 1.

INCOME, NUTRITION AND WORKING EFFICIENCY

It seems worth exploring the issue of the adequacy of food intake among low income groups in developing countries in more detail for two reasons. Firstly, qualitative and quantitative inadequacies of diet are among the most direct and telling of all the correlatives of poverty, and provide a good illustration of the income distribution problem. Also, while there is some appreciation of the scale of the food problem at national or overall level in less developed countries, the extent of the problem among the poorest and most disadvantaged groups has received comparatively little attention. A second focus of interest is the connection between food intake and work efficiency. If food intake is inadequate to sustain full and steady work then here is an obvious cause of underemployment and an obvious focus for policy as well.

These topics merit a full length study in themselves and we would not claim that our data reveal more than a prima facie case that underemployment and inadequate diet are closely associated. All too often studies of nutrition are made independently of working efficiency and vice versa. But it seems clear that the nutritional standards, which the experts insist are necessary for efficient working and living, are far above the levels as indicated by field surveys of food intake among low income groups. We begin with a brief technical introduction which indicates how nutritional

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standards are established and some of the problems relating to them. The basic measures of the adequacy of food intake which we will concentrate on are protein and calorie content of diet[1].

Calorie requirements

The expenditure of energy which accompanies human physiological processes can be expressed in calorific units and the calories made available for use by consumption of foodstuffs can similarly be measured. Thus, energy requirements and their availability through food intake can be directly compared. If the food intake does not provide sufficient calories for the activities of the individual, body substance may be used as an energy source and body weight will decrease in consequence. So the maintenance of body weight is an indication of the nutritional equilibrium of the individual. Two major components of energy requirements are usually differentiated : (*a*) the " basal " component covering the functional needs of the body like breathing, beating of the heart, food assimilation etc., (*b*) the " activity " component for muscular work, such as standing, walking, lifting, pushing, pulling, etc. The latter are usually under voluntary control and thus can be regulated in amount.

Calorie requirements vary among individuals mainly according to physical activity, sex and body size, age, and climate. The first two are probably much the most important but, as is discussed shortly, the relationships cannot be very precisely established.

In practice, FAO calculations[2] of the calorie requirements for population groups differing in respect of these characteristics are made in the following way : first, the requirements of a notional reference man and reference woman are established. The reference is to adults of good health, aged 25 years, living in a temperate climate (mean annual temperature of 10 °C) and working 8 hours a day at a nonsedentary occupation, which requires only occasional periods of hard physical labour. Male body weight is taken as 65 kg and 55 kg for the female[3].

Given the basic reference, allowances or adjustments are made for differences in age, (which are mainly a function of weight but in part are also related to activity) for climate, activity, body weight etc. Given the age, sex and, in principle, activity distributions of a population, national requirements in terms of calories can be (and are) established. These requirements are usually expressed in per capita terms. One minor adjustment worth noting is that, for purposes of comparison, physiological requirements are converted into the equivalent requirement for food as it is purchased or otherwise obtained. This is because most estimates of food intake are based on food supply data, " at the retail level ". In practice the conversion is very rough — an addition of 5 per cent or 10 per cent to physiological requirements is usually made[4].

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1. Other important requirements which are provided by food intake include minerals and vitamins but to avoid lengthening unduly this section we will ignore these.
2. Throughout this section we concentrate on FAO estimates because these are the best known and most widely available. Estimates originating from other bodies, for example national nutrition institutes, do not seem to differ greatly from those of FAO.
3. See FAO *Calorie Requirements* [22].
4. Ten per cent in the latest FAO *Indicative World Plan* [23].

The breakdown of energy requiremenst for the reference couple are shown in Table 6. For comparison, calculations relating to an Indian reference couple, which were based on FAO methods of adjustment for climate and bodyweight differences, are also shown.

TABLE IV.6. THE BREAKDOWN OF ENERGY REQUIREMENTS : THE FAO REFERENCE COUPLE AND ESTIMATES FOR INDIA

Cals. per day.

	Males			Females		
	India	FAO reference	Difference	India	FAO reference	Difference
1. *The "basal" component* (24 hours)	1,380	1,500	120	1,060	1,260	200
2. *The work supplement* : Work of 8 hours duration :						
i) Sedentary occupation	290	300	10	260		
ii) Light or industrial work	640	700	60	450	460	10
iii) Heavy work	1,740	1,900	160	1,350		
3. *Eight hours "off work" activity supplement*	760	1,000	240	470	580	110
4. *Total requirements* :						
1 + 2 (*i*) + 3	2,430	2,800	370	1,690		
1 + 2 (*ii*) + 3	2,780	3,200	420	1,980	2,300	320
1 + 2 (*iii*) + 3	3,880	4,400	520	2,880		

Sources : Suktatme [21] and *Calorie Requirements,* FAO [22].

Two points worth noting are firstly, that the differences between the reference individuals — between 300 and 500 Calories per day[1] — are over — shadowed by differences in requirements for different activities (at about 1,500 or 1,600 Calories between sedentary and heavy work for males). Secondly, if the "basal" requirement and requirements for off work activities are taken as fixed in amount (akin to overhead capital) then proportionately small deficiencies in overall calorie intake imply proportionately much larger reductions in calories available for work effort.

There is no great dispute about the estimates for the FAO reference man since his requirements can be fairly accurately established from conditions in developed countries. The difficulties essentially concern the adjustments which are appropriate in dealing with populations in less developed countries. In less developed countries there is a lack of large scale research into the effects of low calorie (or protein) intake and the requirements for healthy, efficient adults remain, to some extent, hypothetical.

1. Strictly speaking kilo calories; throughout this section we adhere to the usual convention i.e. 1,000 calories = 1 Calorie.

The biggest difficulty concerns the requirements for activity of adults and their relation to food intake. Clearly, if work effort is low because food is in limited supply then it is not relevant to base requirements on existing levels of activity. But for less developed countries, there are relatively few scientific measurements either of the energy expenditures associated with different types of activity or even of typical or representative patterns of energy expenditure, and still less of energy expenditures under conditions where it can be presumed that food intake does not constrain activity. Perhaps the most difficult case is traditional agriculture, where actual working is at a low and variable rate. *Steady* work in agriculture using labour intensive technologies would certainly seem to require high calorie intake corresponding to " heavy " work[1].

An important problem is the extent to which individuals (or societies) who experience long term food shortage adapt to it via changes in patterns of leisure activities and through a reduction in the " basal " requirement instead of through adaptation of work activity. There seems little doubt that substantial adjustment of total intake to available calorie is possible, but it is not at all clear that such adjustment can occur without a reduction in working capacity at the same time. On the whole, where external evidence suggests a rate of working which does approach the 8 hour day, for example under factory conditions, actual intake does not seem to diverge much from the relevant FAO standard[2]. In agriculture especially, a further complication is that food availability tends to vary with the seasons because, among other reasons, storage is not possible for all types of crops or is subject to losses through spoilage. In these circumstances, the adjustment of energy requirements to energy availability is, to some extent, accomplished through seasonal variation in body weight. How well this adjustment mechanism works or can work is difficult to determine but it can hardly be 100 per cent efficient.

It is perhaps not surprising, in view of the difficulties, that the FAO have tended to assume for their global calculations of requirements, that patterns of activity are everywhere the same for adults[3]. But both the

1. Measurements of calorie expenditure per minute reported by Lowenstein [25] for West Africa and Durnin and Passmore [26] for India indicate rates for activities like weeding, digging, transplanting, clearing, hoeing, planting etc. which are well within the range for heavy work (approximately 5 to 10 Calories per minute on the scale proposed by Christensen [27]). Such rates provide only an indication of calorie expenditures over extended periods however as heavy work tends to be compensated by frequent pauses for rest; in fact 5 Calories per minute (300 per hour) at a sustained rate is the " reference man " standard for heavy work adopted by the FAO, corresponding to 2,400 calories per 8 hour shift (see Table 6; 2 (*iii*) plus 500 " basal " Calories). Oshima [28] quotes an intake of 4,000 Calories per day during busy seasons in Korean agriculture; Fox [29] reports a similar figure from calculations based on an eight hour work day for Gambia; some examples for West Africa are given by Lowenstein [25] and a detailed study for Nigeria is Nicol [30]. Seasonal variation in food intake in line with work requirements is shown by the following estimates quoted by Blanc [31] for a village in Upper Volta :

	July-October Cultivation and harvesting period	*November-February* Slack season	*March-June* Field preparation
Calorie intake (per *inhabitant*)	2711	2285	2755

2. See Lowenstein [25] for a number of examples.

3. This is the recommendation of the 1957 *Calorie Requirements* report [22], and is the method applied in deriving the estimates shown in the *Third World Food Survey* [32] and the recent *Indicative World Plan* estimates [23].

relatively labour intensive nature of production in less developed countries and the weight of heavy work occupations like agriculture in the occupational distribution, suggest a case for supposing that the requirements for full time activity are a good deal higher than are those given by the assumption of eight hours light work which is implicit in the FAO procedure. If, as Table 1 indicates, the difference between " light " and " heavy " work is 1,000 Calories per day this adjustment could indeed be a significant one. It is surely misleading to suggest, as has been suggested, that poor people do not need much food because they do not do much work, if in fact nutritional deficiency limits labour input or if efforts to increase labour input are actively being promoted. We do not, for this reason, share the view sometimes expressed that FAO standards are too " generous "[1]. However, perhaps the main point from all this is that we have far too little field evidence to be at all confident in the existing estimates.

Scientific study of groups subject to reduced calorie intakes in developed countries reveal striking effects on work performance. As well as Keys [33] well known studies of the late 1940s on the effect of reducing food intake to semi-starvation levels (1,600 Calories per day), Batawi [34] reports an experiment in which a normal food intake of 3,100 Calories was reduced to 2,000 Calories over a period of several months. After an initial loss of 10 per cent, body weight tended to stabilise, but subjects tired easily and were unable to work hard or for long periods. Whether physiological or psychological, such studies also report deterioration in use of mental facilities — listlessness, lowering of initiative, lack of awareness, poor judgement, etc.

There are also scattered instances, in some cases reasonably well documented, of substantial increases in productivity following improvement in workers' food intake or of falls in productivity (for example, in war-time) following deterioration of diet[2]. One well documented example for a developing country, India, concerned productivity in earth moving on a project involving groups of workers from different areas working in teams under various arrangements regarding payment etc. We quote : " One of the main conclusions was that the best workers were the 10 per cent of the labour force who came from Malabar, whose output was 80 per cent higher than the rest ; after careful comparison of their tools and methods, skill, stature, age and other relevant aspects with those of the other workers, it was found that : " The only significant difference is that they are customarily fed communally by their employers as part of their emoluments... the

1. It is also relevant here to note that while the FAO recommend a downward adjustment in requirements in climates warmer than the 10 °C average, some recent research indicates that in fact the appropriate adjustment for temperature increases (from 10°C) may be upwards, see Lowenstein [25] and Passmore and Durnin [26].

2. One of the more convincing examples, quoted by Blanc [31], concerns ration allowances to Russian and Italian workers in German factories during the Second World War. Having observed that the productivity of these workers was considerably below that of their German counterparts, allowances were granted to bring the food intake of these workers up to the same level as the German workers. After six months, among those doing mainly physical work, foreign workers were up to 89 per cent of German productivity compared with 70 per cent initially, while for those employed on highly mechanised processes the improvement was only from 77.5 per cent to 83.5 per cent. In such examples one can rarely, if ever, distinguish the effects of calorie and protein deficiency — partly because such deficiences tend to occur together. FAO *Working Efficiency* [35] and Lowenstein [25] provide other examples.

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Malabari workers were consuming an average of 4,500 calories per head per day, as against 2,880 by workers who bought and cooked their own food "[1].

Protein requirements[2]

Protein is the generic description applied to a number of diverse and complex organic compounds whose chemical composition includes carbon, hydrogen, oxygen and nitrogen. Nutritive or dietary protein, obtained through food, is used mainly for cell replacement among adults and for cell development as well in the case of children. The losses of nitrogen to the body which occur through excretion, loss of hair, skin etc. enable measurement of replacement requirements for protein, and for children the nitrogen context of the weight gained during normal growth can similarly be calculated[3]. The sensitivity of nitrogen losses to such general influences as climate and physical activity are not well researched and at present FAO make no adjustments for these. For this reason, protein requirements expressed in grams/per day/per kilo of body weight are a good deal simpler in this respect than are calorie requirements[4]. FAO recommendations are shown in Table 7.

TABLE IV.7. PROTEIN REQUIREMENTS (REFERENCE PROTEIN)

Age Group		Requirement per kilo of body weight (grams per day)
Infants	0-12 months	2.3 - 1.2 decreasing with age
Children	1- 3 years	0.9
Children	4-12 years	0.8 - 0.7 decreasing with age
Adolescents	13-19 years	0.7 - 0.6
Adults.....	over 19 years	0.6

Source : FAO/WHO, *Protein Requirements* 1965 [36].

But protein requirement in respect of " quality " is a good deal more complicated. Briefly, part of the protein must be available in the form of certain essential animo acids and quality of protein depends on the pattern and amount of these essential animo acids which varies from one food source to another. While some uncertainty remains, the ideal or reference protein for humans appears to be very close in composition to that found in a hen's egg. Hen egg protein is also a convenient reference standard because it is of almost ideal digestibility ; some nutritive protein while having the right pattern of animo acids is not fully digestible[5]. Digestibility and animo acid pattern are often expressed in a " net utilisation ratio " or NPU scale. The reference or ideal protein is then one with NPU = 100 and other inferior protein sources take on values of NPU lower than 100. Therefore, appro-

1. Quoted from *Minimum wage fixing and economic development op. cit.*, Chapter 3.
2. See FAO/WHO Expert Group Report *Protein Requirements* [36] for full details.
3. The nitrogen content of protein is about 16 per cent (by weight).
4. But extra protein is needed during pregnancy and lactation and during or following many types of illness.
5. Technically, part of the nitrogen available in the protein is not absorbed by the body.

ximately speaking, given the reference requirement (Table 7), the requirement in terms of local protein sources can be calculated by augmenting the reference by the ratio of 100 to the local NPU value.

Two minor complications whith protein requirements are firstly that nitrogen losses are found to vary considerably as between normal individuals so that individual physiological requirements for protein differ considerably ; FAO recommend a " safety margin " to take account of this variation, in effect by raising the average requirement (Table 7) by 20 per cent (the " practical requirement ")[1]. Secondly, since most studies calculate protein values from food before it is prepared (" at retail level ") an adjustment to allow for wastage is made, usually by increasing protein requirements by 10 per cent.

There are certain problems in applying these methods which particularly affect less developed countries. First, while the reference protein requirement of the FAO reference man (65 kilos body weight) is approximately 39 grams, this could be doubled when expressed in local protein of poor quality. Unfortunately, the precise composition of local protein in less developed countries, while certainly often of poor quality, is rarely known with complete accuracy, partly because various minor, sometimes unconventional, foodstuffs could have a considerable effect in modifying the animo acid pattern found in the major staple[2]. For this reason there is often considerable uncertainty attaching to estimates of protein requirements expressed in terms of local protein in less developed countries. In the light of this situation, it is not surprising that animal protein of known high NPU value, has been singled out as being a particularly desirable food supplement (although certain vegetable protein sources may be just as good). Animal protein in addition provides a lot of protein in concentrated form ; often the problem with diets heavily based on a single crop (like rice) is not that the protein is of poor quality but that there is little of it in quantities which would satisfy a calorie requirement[3]. For children especially, whose protein requirement is relatively great, it is often difficult to get enough protein from an otherwise adequate diet. But it is also the case that where calorie is inadequate, part of the protein is used as an energy source and not for cell replacement. In these circumstances, protein deficiency may be much more widespread than calculation of protein availability might suggest and, equally important, policies which concentrate on protein enrichment may be only partially effective if, at the same time, a calorie deficit is not corrected[4].

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1. The logic of this adjustment is not altogether convincing in relation to less developed countries since there are other compelling reasons for supposing that many people will not get their protein ration even if national supplies are adequate. Furthermore, it is not clear, why a similar adjustment is not made for calorie requirements, where individual variation is also considerable. See François [37] for some discussion of the statistical distributions of protein and calorie requirements : data problems are considerable because information on any scale is rarely available for fixed weight and age.
2. See Autret et. al. [38] for further discussion.
3. Technically, this aspect of diet is usually assessed by measuring the calorific equivalent of the protein and comparing the availability of protein calories to total calories.
4. FAO Expert Committee Paper — *A statistical appraisal of the Protein Problem* [39]. This paper suggests that protein deficiency, when adequate calorie intake is assured, may be largely a problem among children and among those living on starchy root diets (mainly in Africa) and that protein deficiency elsewhere tends to occur with calorie deficiency.

It is difficult to distinguish the effect of protein deficiency per se by experimental evidence since the important influences are mainly long term in character. There is, however, plenty of evidence about these long term effects though, again, it is difficult to separate out the contribution of calorie deficiency or effects due to the absence of certain vital minerals and vitamins. Much the most serious consequences result from protein deficiency during early childhood, where the need for protein is greatest, as the check to development which results cannot always be made up in later life. In mild cases the main effect is probably to stunt growth and therefore to reduce adult body weight and height[1], but severe protein deficiency may directly result in death or such acute pathological conditions as Kwashiokor. Among adults and children deficiency also considerably weakens resistance to illness so that (*a*) people become ill more often and (*b*) more often die as a result. Again children are the worst sufferers[2], but adults too can lose much work time through sickness or work at low efficiency ; apathy, lack of awareness and vitality may also be due to protein as well as to calorie deficiency[3].

As in the case of calorie, there is room for dispute about the protein requirements of populations in less developed countries. For example, requirements for children based on existing weight and height are clearly inappropriate if these magnitudes themselves reflect the effects of malnutrition. But after some level of intake, additional protein or calorie for children *may* produce no measurable difference, for example, in health or intelligence, but a substantial difference in adult height and body weight. It is not obvious on economic or other grounds that big people are to be preferred to small.

A particularly serious feature of protein deficiency is its probable effect on the mental development of very young children. This has only been studied systematically very recently, and a good deal remains to be discovered, particularly in regard to the extent of this problem. The human brain grows mainly (90 per cent) during the first three years of life relying essentially on protein synthesis, and it grows less fast when the supply of protein is deficient. Once the critical growth period is past it seems that remedial action will be ineffective, so that damage is irreversible ; evidence of an experimental nature with animals at least is quite unambiguous in these respects[4]. Such experiments also show that malnutrition at an early age results in stunted development of the central nervous system, and that protein deficiency during pregnancy probably causes still-births or alterations of the brain of the newborn which, again, are permanent if an optimal diet is not provided soon after birth. Research investigations among children are still rather limited, on the one hand, because similar experiments like those with animals are obviously not possible and, on the other hand,

1. See Kraut and Cremer [40] and Blanc [31].
2. Blanc [31] quotes village studies in West Africa where chances are little better than one in two of surviving to the age of 5.
3. And to deficiencies in mineral and vitamin intake. Needless to say, health and diet interact in numerous ways; for example, parasitic infestation may actually cause calorie and protein deficiency by depriving the body of its food intake even when measured intake seems adequate. Similarly, there is some evidence that during disease and illness more nutrients are required than otherwise, see Scrimshaw [41]. Many writers make the point that malnutrition turns some comparatively mild types of illness and disease into killers.
4. See Scrimshaw Ed. [42] — especially the articles by Stewart and Platt and by Dobbing.

because it is difficult to separate the effects due to nutritional deficiency from those due to other environmental factors. But some observations[1] reported from research in Mexico, Guatemala, Peru, Chile and Uganda tend to support the assumption that the experiences with animals are also valid for men. Where height and weight of children are abnormally low for age, occipito-frontal head circumference, a reasonably good indicator for brain size, is also reduced. There is also direct evidence that such children perform less well in tests of learning and behaviour. Mönckeberg[2] reported that even after a period of several years with optimal nourishment, formerly under-nourished children in Chile were, in height, head circumference and intelligence, far below children with no history of under-nutrition.

Evidence of the State of Nutrition in Less Developed Countries

The conclusion to the argument so far would be that, while the estimates of requirements as determined by nutritional experts are necessarily subject to considerable uncertainty in the present state of knowledge, there seems no good reason for supposing that they are biased upward. We now turn to consider briefly what can be said about the general state of nutrition among low income groups in relation to these requirements in less developed countries.

Firstly, at the whole economy level, FAO estimates of calorie and protein availability, while very uncertain in a number of cases, do suggest significant nutritional deficiencies in some countries. The pattern of food surplus and food deficit countries in this sense follows what might be expected on the basis of differences in income levels. Countries with low per capita income are typically those most likely to show a calorie or protein deficit in food supplies. The gaps can be substantial, for example, an average per capita availability of 1,830 Cals instead of 2,400 in Bolivia and 49 grams of protein instead of 67 grams in Iran[3].

Similarly, findings suggest considerable discrepancies within countries, for example, according to survey data, 75 per cent of rural families in backward North East Brazil had less than the estimated average calorie requirement of 2,450 Cals per day while among rural families in South Brazil the corresponding proportion was only 3 per cent[4].

The most revealing focus on the income level effect, however, is provided by cross section studies at the national level, and we have concentrated on these. However, there are few surveys of food intake which differentiate between income groups and among the few there are many unsatisfactory features. Estimates are usually based on more or less closely observed amounts of food purchased or otherwise available to the household, which are then converted into their calorific and protein equivalents using either standardised estimates for different foods or, more satisfactorily, estimates based on local varieties. It is, in particular, not easy to take account of

1. Scrimshaw [41].
2. Quoted in Scrimshaw [41].
3. *FAO Monthly Bulletin* Vol. 17, May 1968 [43].
4. Brazil Survey [44]. We use these statistics for purely comparative purposes; in general it is misleading to compute the extent of malnutrition by simple reference to the number of families or individuals who fall below the average requirement, since many individuals and families have needs which differ considerably from the population average. See François [37] for illustrations of the variability of food intake among groups for whom no presumption of malnutrition on any general scale could be entertained.

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various minor, often unconventional, foodstuffs which may have considerable nutritive value. However, while subject to various difficulties (which, no doubt imply varying quality among the surveys), it may be noted that such studies provide a firmer base than does the aggregative food balance sheet approach.

Table 8 contains a summary of the statistical results from a number of nutrition surveys which distinguish food intake by income level[1]. There is a striking degree of consistency in the main results. Income has a considerable effect on the nutritional adequacy of diet and poor households in less developed countries experience diets which are grossly inadequate, both in calorie and protein components. Madagascar is the only case where the differences across income groups are not very great. Quality of protein — as indicated by the quantity of animal protein — also falls from high to low income.

It is of course true that some of the estimates in the 1,300-1,500 Calories range are so low as to be incredible, but our argument can clearly stand this sort of qualification. Apart from this, it is not obvious that measured consumption at low income levels should be biased downwards relative to consumption in higher income groups. It may be, for example, that measurement is more difficult when much food is not purchased, as tends to occur among low income groups but, on the other hand, at higher incomes a greater variety in food consumed makes for similar difficulties[2]. It might also be questioned whether low income families are also those with large families who consume less per capita because the proportion of children is high. But for those surveys reporting family size (India, Madagascar and Brazil) this is not the case and in fact in these cases family size tends to increase somewhat with income, at least up to middle range incomes.

For illustrative purposes, let us take the case of urban families in Brazil with income between 100 and 249 new cruzerios — not the lowest group — with a per capita food intake of about 1,800 Cals per day, and protein 49.1 grams. The survey reports family size for this income group as 3.4 persons. We will assume that half the family, 1.7 people, are children aged about 7 with a requirement for calories of 1,600 per capita per day. For adults we apply the FAO reference scale for young adults for body weights of 62 kilos (males) and 55 (females) and assume that numbers of men and women are the same[3]. We made no adjustment for climate or for an activity pattern different to the eight hours per day "light" work estimate of FAO. On this basis the "retail level" food requirement for energy for the family is calculated at 7,700 Calories per day — 25 per cent greater than the 6,100 Calories available. The discrepancy is larger than the entire calorie requirement allowance for work effort. For protein, a similar calculation suggests an overall excess of requirements over availability of about 17 per cent[4]. Brazil is not one

1. Other surveys reporting qualitatively similar results are described in François [37] and in *The World Food Problem* [45].

2. It should not be assumed that these problems necessarily lead to underestimation of food intake. Sukhatme [24] suggests that over-estimation is more likely in some Indian surveys.

3. See FAO Calorie Requirements [22]. Body weight estimates were taken from *The World Food Problem* [45], Vol. II, Chapter I.

4. Using Table 7, assuming child body weight at 20 kilos and a conversion factor from local to reference protein of .65.

TABLE IV.8. NUTRITION LEVELS BY INCOME CLEASS

Family Income/ Expenditure Group	Percentages of families	Calorie intake *Cals* (*per capita*)	Protein intake *Grams* (*per capita*)	
LATIN AMERICA				
Brazil (1960/61)				
Annual family income (new cruzeiros per year)				
Urban areas :			Total	Animal
under 100	4.16	1,315	35.6	(10.5)
100- 249	21.94	1,788	49.1	(15.1)
250- 499	31.48	2,227	66.9	(25.6)
500-1,199	30.54	2.830	95.7	(40.1)
1,200 and over	11.88	3.569	119.9	(65.1)
Total average		2.345	73.2	(31.2)
Rural areas :				
under 100	7.94	1.755	50.0	(13.2)
100- 249	27.30	2.267	64.9	(21.7)
250- 499	29.68	2.577	75.9	
500-1,199	24.56	3.144	95.4	(39.1)
1,200 and over	10.52	3.674	116.6	(52.5)
Total average		2.083	80.6	(31.0)
Colombia (1956-62) :				
" very poor " rural		1.535	30	(9)
" very poor " urban		1,538	34	(15)
" middle class " rural		2,138	52	(22)
" middle class " urban		2,183	60	(31)
Mexico (1958/59)				
" very poor " rural		1,788	45	
" very poor " urban		1,803	51	
" middle class " rural		2,275	57	
" middle class " urban		2,331	64	
Peru (1951-58)				
Mountain area		1,754	47	
Coastal areas		2,205	64	
ASIA				
Ceylon				
Rural (1961-66)		1,864	44	(8.3)
Upper class Colombo (1957)		3,271	84	
Iran				
Landowners		2,658	74	
Urban wage earners		2.132	65	
Peasants		1,842	60	
India (1958)				
Maharashtra State				
Expenditure per capita (rupees)				
Urban and rural areas :				
0-11	21,3	1,340	37.9	(1.4)
11-18	18,9	2,020	56.6	(2.6)
18-34	20.7	2,485	69.0	(6.6)
34 and over	39.1	3,340	85.7	(11.9)
Total average		2,100	59.7	(4.5)

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TABLE IV.8. (*Cont'd*)

Family Income/ Expenditure Group	Percentages of families	Calorie intake *Cals* (*per capita*)	Protein intake *Grams* (*per capita*)	
AFRICA				
Madagascar (1962)			Total	Animal
Income ('000 fr. per family/year) :				
1- 20	54.7	2,154	47.3	(5.5)
20- 40	27.7	2,292	54.1	(8.5)
40- 80	11.0	2,256	53.6	(9.4)
80-130	3.8	2,359	61.2	(15.2)
130-190	1.5	2,350	59.1	(15.2)
190-390	0.8	2,342	64.6	(21.8)
390-590	0.3	2.456	65.4	(23.6)
Other classes	0.2			
UAR (1965)				
Low income class		2,204	71	(15.0)
Middle income class		2,818	84	(18.0)
Higher income class		3,130	98	(37.0)
Tunisia (1965-67)				
Dinars per person				
Rural areas :				
less than 20	8.2	1,782		
20- 32	16.2	2,157		
32- 53	30.8	2,525		
53-102	32.4	2,825		
102-200	10.9	3,215		
200 and over	1.5	3,150		
Total average		2,609		

Sources : See Appendix.

of the poorest less developed countries and neither calorie nor protein intake is below FAO standards at the national level : for calorie a substantial surplus is reported[1].

It may be worth noting that in the division of household consumption in such circumstances it is often the children who are in a relative sense the residual claimants on family consumption and who suffer the more extreme consequences of inadequate supplies[2]. This is indeed necessarily the case where adults have to work.

Let us consider briefly the implications of the findings of this section. For adults in low income groups there is a substantial gap between food intake and the requirements for efficient living and working. The evidence therefore strongly suggests the existence of a vicious circle or trap whereby low productivity is part cause and part result of low income and low work input. But even where generous incentive is offered for increased work

1. See FAO *Monthly Bulletin*, Vol. 17, May 1968 [43].
2. Accurate estimates of the consumption of individual family members are extremely difficult to make where much eating is done from a common pot, but the observation in the text is supported by some West African examples quoted by Blanc [31], some findings for East Africa shown by Cremer [40], and by Sukhatme [24] for India.

input, the response may be disappointingly slow because improvement from low level diets takes time ; the inheritance of a deprived childhood cannot just be shrugged off in a few weeks or months and indeed the scars may be permanent. But the future hope of many malnourished children in low income groups whose possibility of development and realisation of potential is now blighted from the beginning, must surely lie in the improvement of the economic status of the adults who provide for them.

None of this denies the possibility that in some circumstances low food intake or low nutritive content and low income are self inflicted whether from sheer ignorance, limited aspirations, cultural taboo or whatever ; nor does it deny that other factors like the prevalence of endemic disease or parasitic infliction have important effects on living levels and work performance which in part are independent of dietary adequacy as such. Perhaps the most important qualification to make is that there is still considerable uncertainty about the food requirements of populations in less developed countries (and correspondingly a great need for field research). But on the basis of existing evidence, long term improvement in living standards at the low end of the scale, if not a sufficient condition for long term improvement in work performance, certainly seems to be a necessary one and the costs of not grappling with the problem are surely enormous in any sensible national balance sheet.

Chapter V

EMPLOYMENT GROWTH : TRENDS AND PROSPECTS

Our aim in this final chapter is to relate some of the findings reported in earlier chapters to more general economic circumstances and policies which have prevailed over the period to which the data pertains. In dealing with future prospects no attempt is made here to describe what policies are available to tackle the problems or what the merits of particular policies might be, but the influence of policies already operating must be considered since these are relevant to the interpretation of recent experience and their continuation is part of the data for a projection which is based on existing trends.

But the prime " fact " to be taken into account in assessing prospects is the virtual certainty of a continuing if not accelerating high rate of growth of labour force. The estimates shown in Chapter II, Table 5 indicated that between 1970 and 1980 the growth per decade in less developed countries will rise to 25 per cent and current reports[1] of birth control efforts and policies suggest little hope for a substantial reduction from this figure until after the turn of the century. The worsening situation in this respect should be borne in mind throughout the following discussion.

Industrial Development and Employment

Productivity growth

We argued in Chapter II that while there was a good deal of variation at individual country level, change in employment during the recent past has been rather small and where less small, as often as not, it took the form of a shift from agriculture into service activities rather than into industry. In contrast, the admittedly highly uncertain aggregative output data tend to show strong growth of the industrial sector and comparatively much slower development of services and especially agriculture. The juxtaposition of these employment and output trends for industry thus imply a relatively high growth rate of industrial productivity. Table 1 provides some detail of productivity at the regional level ; it suggests that in less developed countries as a whole almost one half of the industrial output increase has been reflected as growth in productivity.

Some insights into the process of productivity growth are provided by further disaggregation. Table 2 indicates, again with more than usual qualification about statistical reliability, that differences in productivity levels between industrial subsectors are extremely wide, especially in developing

1. e.g. The OECD Development Centre report on *Population* [1].

TABLE V.1. RATES OF GROWTH OF OUTPUT AND EMPLOYMENT IN INDUSTRY : 1955-65

Industry Group	All less developed countries		Latin America		East and South East Asia	
	Output	Employment	Output	Employment	Output	Employment
20-22 Food, drink, tobacco	5.1	3.3	4.5	4.1	6.1	2.9
23 Textiles	4.0	2.1	2.4	—1.0	4.4	2.3
23 Clothing, footwear	..	6.4	..	2.4	..	10.2
25-26 Wood products, furniture	..	..	..	..	..	7.4
27 Paper and products	9.7	5.0	7.7	2.6	11.0	7.4
31-32 Chemicals, petroleum products	8.0	5.2	7.3	3.4	8.6	6.2
33 Non-metallic minerals	7.6	4.6	5,6	2.6	10.1	6.1
34 Basic metals	10.0	7.3	8.0	5.1	11.2	9.3
35-38 Metal products	10.9	6.8	9.6	—	12.8	8.4
Light manufactures (20-26, 21-30, 39)	5.4	3.8	4.0	2.0	6.7	4.2
Heavy manufactures (27, 31-38)	9.3	6.1	7.9	3.6	10.9	7.7
All manufacturing	7.1	4.4	5.8	2.5	8.1	5.0
Industry as a whole (including mining, gas and electricity)	7.4	4.0	5.9	2.3	8.5	4.8

Source : The Growth of World Industry. 1967 Edition, Vol. 1 [2].

countries. In developing countries highest productivity manufacturing industries (2-digit classification) seem to be about ten times as productive as the lowest industries, while the factor of difference in industrialised countries is only about four. There is however some consistency in the differences between industry groups which suggests that there are systematic differences in relative factor inputs of labour and capital between the subsectors[1]. If so, and if capital-intensive, high-labour-productivity sectors have grown relatively fast, then overall productivity would also increase as the industry mix shifted toward capital-intensive sectors. Some evidence in support of such an explanation of productivity growth in less developed countries is provided by Table 1, and more directly, by Table 3.

Metal products, an important composite category from the productivity point of view, is shown separately in Table 3 ; it includes much capital-

TABLE V.2. VALUE ADDED PER EMPLOYED PERSON BY INDUSTRY GROUP : SELECTED COUNTRIES AND REGIONS : 1963 ESTIMATES

Countries	Levels of value added per employed person					
	Extreme low	Low	Inter-mediate	High	Extreme high	Mining
	National Indices, all manufacturing = 100					
Algeria	20	50	130	270	380	2,240
UAR	40	60	120	270	340	240
Argentina	30	70	100	240	340	200
Brazil	60	70	110	170	170	90
Chile	20	50	110	350	400	220
Colombia	20	60	120	260	310	120
Mexico	70	70	100	150	160	260
Peru	10	30	170	450	1,030	240
Venezuela	20	40	90	310	380	1,530
India	40	70	130	390	400	180
Iran	20	60	110	440	660	1,980
Pakistan	30	70	180	500	690	280
Philippines	20	50	120	210	300	4,100
All non-industralised countries	40	50	130	300	380	520
All industrialised countries	50	60	100	150	200	140
Japan	30	60	100	180	270	100
USA	50	60	100	140	190	200

Source : The Growth of World Industry - 1967 Edition, Vol. 1, [2]. Derived from Tables 3, 7 and 9 of Part II, B, " Manufacturing " is ISIC groups 20-39.

NOTES. " Low " productivity industries : ISIC groups 23 (Textiles), 24 (Clothing and Footwear), 25-26 Wood Products and Furniture and 33 Non-Metallic Mineral Products.

" Intermediate " productivity industries : 28 (Printing and Publishing), 29 (Leather and Products), 35-38 (Metal Products), 39 (Miscellaneous) and 20-22 (Food Products).

" High " productivity industries : 31-32 (Chemicals), 34 (Basic Metals), 27 (Paper and Products), 30 (Rubber and Products).

Extreme low productivity : is in practice always either 24 (Clothing and Footwear), or 25-26 (Wood Products and Furniture).

— the latter for the UAR, Argentina, Brazil, Colombia, India and Pakistan.

Extreme high productivity : is more variable, but is 31-32 (Chemicals) for the UAR, Venezuela, India, Iran, Philippines, all the industrialised countries, including USA and Japan.

— is Group 30 (Rubber Products) for Algeria, Mexico, Brazil.

— is Group 29 (Leather and Products) for Argentina.

— is Group 27 (Paper and Products) for Chile, Colombia, Pakistan.

1. See Lary [3] for a similar conclusion based on much more detailed analysis of industrial census data.

intensive plant and machinery as well as transport equipment, all of which have grown fast over the post-war period. Note that the proportions in low productivity groups are likely to be understated in the earlier relative to the later sets of figures as improved coverage is likely to affect these groups more than others.

TABLE V.3. OUTPUT SHARES IN MANUFACTURING INDUSTRY

Country	Year	Low output per head industries	High output per head industries	Metal products	Other intermediate groups
Argentina	1948	30.2	18.1	15.9	35.8
	1957	21.2	22.4	23.1	33.3
Brazil	1949	30.4	29.3		40.7
	1963	19.0	51.4		29.6
Mexico	1950	22.3	30.9	9.4	37.5
	1960	18.1	29.7	12.5	39.7
India	1953	51.7	25.7	9.0	13.6
	1962	32.5	25.2	20.5	27.8
Pakistan	1953	58.5	5.1	5.0	31.4
	1963	66.9	11.7	4.0	17.4
Philippines	1956	16.0	21.6	9.4	53.0
	1962	14.3	24.4	14.6	46.7
Taiwan	1954	20.2	16.4	10.6	52.8
	1961	17.6	23.0	11.8	47.6

Source : Derived from Tables prepared in connection with the Development Centre Industrialisation studies based on Industrial Census statistics.

NOTES. "Low" productivity industries : ISIC groups 23 (Textiles), 24 (Clothing and Footwear), 25-26 Wood Products and Furniture and 33 Non-Metallic Mineral Products.
"Intermediate" productivity industries : 28 (Printing and Publishing), 29 (Leather and Products), 35-38 (Metal Products), 39 (Miscellaneous) and 20-22 (Food Products).
"High" productivity industries : 31-32 (Chemicals), 34 (Basic Metals), 27 (Paper and Products), 30 (Rubber and Products).

While the shift towards heavy industry probably raised the overall capital intensity of manufacturing, there is also some widely scattered evidence[1] that a similar trend was operating within industries. Within industries too there are sharp contrasts in productivity between modern, capital-intensive large scale enterprise and small scale household enterprise operating with a minimum of machinery and often without electrical power[2]. There is no obviously correct way of defining the household sector, but if all self-employed workers are included, Table 4 of Chapter II shows that these make

1. Direct evidence, using e.g. capital output and capital labour ratios, is for obvious reasons not widely available. Indicators like per capita power consumption can however be used and usually show large increases at the sub-industry level, see e.g. the calculations shown in Baer and Hervé [4]. Some figures for India, quoted in the *UN Economic Survey for Asia and the Far East 1965*[5] were as follows : —
Percentage increase in capital per worker : whole period 1950/51 - 1960/61

Agriculture	Mining	Manufacturing and power	Other sectors
10	1	74	13

2. Dhar and Lydall [6] emphasise the gap between a large bottom layer of very small enterprise and large scale firms in India. The development of a modern small scale industrial sector, integrated with large scale enterprise (on the lines of the Japanese model) seems to be very limited (see Koga [7]).

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up between 15 and 20 per cent of the male mining and manufacturing work force in Latin American countries, and up to 50 per cent in some Asian countries. If small workshop employees are added, these proportions become very much bigger[1]. Traditional manufacturing is therefore still very important for employment.

During the post-war period many countries made efforts to shield or even actively promote the craft industries, which partly explains why productivity growth in the traditional light manufacturing industries (Table 1) was sometimes lower than might otherwise have been expected ; large scale substitution by higher productivity factory methods was held back in these sectors[2].

But efforts to restrict the competition of modern plant and equipment were only (and perhaps can only be) partly successful because the scope for indirect substitution — the replacement of traditional types of goods by a modern equivalent — is wide, and because the traditional product is often inferior to its factory produced substitute. Oshima[3] gives some examples — the replacement of charcoal by gas and electricity ; of carts and bicycles by cars and buses, of local beverages by beer and soft drinks and so on. There is little doubt that the competitive strength of traditional manufacturing vis à vis modern factories, has been based, to a considerable extent, on relatively low wages and unregulated working conditions, and in rural areas often by the continued insulation from urban competition because of poor transport. The prospects for employment growth in this sector, above all others, would seem to depend on the development of an intermediate technology — the provision of substantially improved techniques having a low threshold of capital requirements.

Economic policies toward industry

Some policy reasons why industrial development has been accompanied by increasing capital intensity, despite an abundance of labour, were touched upon in Chapter I. It is clear that economic policies did have important effects on the structure and type of industrial development and that in many cases policies favouring industry were vigorously if not always consistently pursued. In general there have been both deliberate attempts to foster a capital intensive heavy industry base and the use of a range of policy instruments which tended to favour, not necessarily by design, capital intensive production. Most important perhaps was the attempt to stimulate domestic industry through import substitution using trade restrictions to push up domestic prices of industrial goods and through high profit margins both to attract capital (sometimes foreign as well as domestic) and to stimulate further development through reinvestment as well[4].

1. ECLA estimates [8] for Latin America, taking establishments of five or less workers, show this group to account for about 40 per cent of workers and about 10 per cent of total manufacturing income. For Asia, Industrial Census statistics for the early 1960s, suggest that establishments of twenty workers or less may still account for around three quarters of all manufacturing employment in India, Pakistan, Ceylon, Thailand and the Philippines, and perhaps 50 per cent or a little less in Taiwan, South Korea and Singapore.
2. Myrdal (*op. cit.* Chapter I) gives some examples for Asia in Vol. II, Chapter 25.
3. *Op. cit.* Chapter III.
4. One partial indicator of profit margins is the share of capital payments in value added. Calculations based statistics shown in the Growth of World Industry [2] show these shares to be considerably higher in most developing countries.

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In some countries policy was implemented through physical controls — for example, in India, via the use of investment and import licenses. In others, capital was cheap because real interest rates were low or because rapid write off for tax purposes was allowed, or because imported capital goods (where available) were admitted at the favourable rates of exchange made possible by general import restriction[1]. On the other hand, the favourable rates of exchange for imports were unfavourable for exports and exports of manufactures are likely to be relatively labour intensive[2]. Finally, plant and machinery made available through foreign assistance programmes, especially when tied to sources of supply in the donor country, are likely to embody capital intensive techniques more appropriate to the economic circumstances of the giver than to those of the recipient. Much the same could be said for a good deal of foreign investment in manufacturing.

Other reasons for capital intensive development[3]

A constraint which receives considerable mention in the literature is a twist toward capital intensity imposed by a shortage of skilled workers. While this is certainly possible there seems little empirical evidence one way or the other ; the increased need for trained maintenance staff is one offset to any economy of skills at the operational level and it is easy to see how a shortage of skill can be intensified by the use of skill-intensive machinery for other reasons. On the other hand, the management problem posed by large working groups is a difficulty in situations where such groups would otherwise be an economic alternative to machinery and where local supervisory skills may be lacking[4].

But it is possible to make too much of the capital intensity/advanced technology bias in industrial development strategy. In particular the argument neglects the potential or actual importance of inter-industy linkages which could imply that labour intensive manufacturing is stimulated by capital-intensive input provider or output user industries. But these back-

1. See the Development Centre Studies (*op. cit.* Chapter One) of Brazil, China (Taiwan), India, Mexico, Pakistan and the Philippines for numerous examples. Estimates of effective protection for manufacturing which give some idea of the overall importance of promotion policies (though not for " modern " industry considered separately) are shown in the general volume to the series by Little, Scitovsky and Scott. Effective protection is here defined as the percentages by which manufacturing value added, valued at domestic prices, exceeded the corresponding valuation at world prices, allowing both for differences between domestic and world prices for inputs and output, and using official exchange rates for conversion (alternative measures and methodological discussion are also provided in the source).

Argentina	1958	162
Brazil	1966	118
Mexico	1960	27
India	1961	313
Pakistan	1963/4	271
Philippines	1965	49
Taiwan	1965	33

All the data are very approximate and for India data apply only to about one sixth of large scale manufacturing.

2. This is certainly true of the existing pattern of manufactured exports from less developed countries. See Lary [3] for more consideration of some of these questions.

3. The effect of high wages on capital intensity is dealt with in a later section of this chapter.

4. Baer and Hervé [4] provide a more extended discussion on the skills issue. On management problems, a good discussion is provided by Kilby [9] in relation to Nigeria.

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ward and forward linkage effects have been discussed more in relation to output or investment than employment creation, though a good deal of capital intensive infrastructure would no doubt justify itself on these grounds.

Probably few people would argue that the planning of industrial development in less developed countries could not have been much improved and, or alternatively, that more use of a reformed price mechanism could not have made for more sensible investment decisions. But there is less agreement that the import substitution approach can be much modified in favour of a more open system with reliance on specialisation through trade. Existing restrictions imposed by developed countries and the threat of new restrictions on such items as textiles and clothing, which less developed countries could most easily supply, are evidence that the approach through trade is not easy[1]. The clothing, footwear, canned mushrooms or artificial wig pattern of the typical export success story is not every country's idea of a foundation for a modern industrial structure. If industry *is* to be promoted and if much expansion through trade is ruled out, cars and chemicals as well as textiles and shoes will be encouraged to serve either the domestic or perhaps regional market. In this case it is clear that there are many more industries, or more accurately industrial processes, where available techniques would not permit the use of much labour at least pending the development of intermediate technology[2].

Other sources of productivity growth

It would be absurd to suppose that the growth of industrial productivity has been due exclusively to larger capital inputs. In particular more efficient management on the one hand and more experienced workers on the other are very likely to achieve considerable increases over current productivity levels at plant level[3]. This argument is of course an important, if not the main, element in the economic rationale for special efforts to promote industry and many less developed countries surely will make more efficient use of the existing stock of industrial assets than they now do. With a tendency toward rising educational standards and the diffusion of literacy lower down the occupational ladder, the ability to learn by doing on the part of labour might also be expected to increase.

Agricultural Development

We argued earlier that the policy of promoting industrialisation must

1. Most, though not all, of the countries which have been particularly successful — Taiwan, Korea, Hong Kong, for example, tend to have special relationships with one or another of the main markets, although many other countries with such relationships have been unable to make much use of them. It is not difficult to show that domestic policy has often had important effects; the difference in Pakistani export success between the 1950s and 1960s is a particularly clear example.

2. How much special encouragement *should* be given to industry is perhaps the more fundamental question. It is a hard question and one to which economic answers are in any case incomplete. But regarding " spread effects " on the development of the economy as a whole, there seems at least an arguable case for supposing that agricultural development does more to stimulate industry than does industry to stimulate agriculture. Many agricultural outputs provide low cost inputs for industrial processes but seemingly few domestic industries have made available low cost inputs for agriculture.

3. Frank *op. cit.* Chapter III, gives some particularly clear examples where this sort of process has been at work in Africa.

in some measure have worked to the disadvantage of other sectors, of which the largest and most important from the employment point of view is agriculture. The burden on agriculture may perhaps best be thought of as the extent to which real incomes deriving from agriculture are reduced relative to real incomes from industry as a result of the promotion of industry.

How large this burden was is difficult to measure partly because not much of it, if any, shows up in a direct tax-transfer process and more important, because it also depends on how the situation would have evolved had industry not been promoted or had been promoted by different means. But rough calculations based on a comparison between the ratio of domestic prices for industrial to agricultural goods and the corresponding ratio of world prices for similar outputs provide some measure of the burden and this has been considerable in some countries[1].

More indirectly some consequences of agricultural policy can be gauged by an appraisal based on the rate of development of agriculture itself and the potential for improvement on past performance. Direct calculations of agricultural productivity are difficult to make and highly uncertain but comparisons based on product in relation to agricultural population provide some indication of general trends ; in less developed countries as a whole these trends have not been very favourable.

TABLE V.4. INDEX NUMBERS OF AGRICULTURAL POPULATION, OUTPUT AND OUTPUT PER HEAD 1950[1]-1965

	Index number 1950 = 100			Output per head annual average increase
	Agricultural population 1965	Agricultural output 1965	Output per head 1965	
Africa	139	157	113	0.8
North America	56	128	226	5.6
Latin America	126	160	128	1.6
Near East	147	174	118	1.1
Far East	139	154	111	0.7
World[2]	124	153	123	1.4

1. The output index numbers are derived taking an average of 1948-52 as 100.
2. Excludes Mainland China.

Source : Derived from the *FAO Production Yearbook 1967,* Tables 4, 5, 6 and 7.

While we have no direct evidence on changing man/land ratios, even

1. For Pakistan a direct estimate by Professor Stephen Lewis, which appears in the Development Centre study on Pakistan (*op. cit.* Chapter 1), suggests that domestic prices for manufactures in relation to agricultural prices were on average, in the mid-fifties almost twice as high as corresponding world prices and in consequence the effective tax on agricultural income amounted to about 500 million dollars, or some 11 to 13 per cent of agricultural income. Almost certainly the burden has been equally as large or larger in a number of other developing countries (see Little et al., *op. cit.* Chapter I, Table 2.12 and discussion).

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these modest increases[1] might have been a good deal less but for the availability of new land. Calculations shown in Table 5 indicate how important additional land was for the production increases actually achieved.

TABLE V.5. TRENDS IN PRODUCTION AREA AND AVERAGE YIELD

	Production	Area	Yield
	1953-55 — 1962-63 *Annual rates*		
Regional data : (For 12 major crops)			
Latin America	3.05	1.75	1.35
Far East[1]	2.45	1.85	0.60
Near East	3.75	2.20	1.55
Africa	2.95	1.65	1.25
Average above regions	2.75	1.85	0.95

1. Excludes Mainland China.
Source : FAO, *The State of Food and Agriculture, 1965* [11].

Perhaps the most revealing indicator of the poor performance of agriculture in this period however is shown by the unfavourable trend in the balance between the domestic production and consumption of foodstuffs — and of agricultural products more generally. With rising population and increasing per capita income the demand for foodstuffs from low income levels grows strongly and, after all, food can be produced with labour intensive techniques. But FAO calculations[2] for the period 1952/56-1960/64 indicate that in only four of thirty-three countries studied did food production grow more than 1 per cent faster than the estimated growth in domestic food demand, and only about one third of the countries managed even to maintain a balance between growth in demand and growth in supply.

It may also be true that the increase in output and more especially productivity which was achieved came from a narrow base of large modernised commercial farms and plantations[3] and affected the great majority of the agricultural population very little.

In some countries where the emphasis on industry was less strong or where offsets to industry's advantages in the form of public investment programmes in agriculture or institutional reform and infrastructural development were pursued, the performance of agriculture was much more satisfactory. Taiwan and Mexico are two examples. Table 6 illustrates some

1. Bairoch [10] in an interesting recent article provides calculations of productivity per adult male engaged in non-plantation agriculture. The calculations depart from usual practice in that they are based on the calorific equivalent of production, where in effect calories per unit of product (including livestock products) rather than prices provide the weighting scheme so enabling absolute comparisons in terms of calories between countries. In many cases the estimates he provides imply lower growth rates than those shown in Table 4. In the seven African countries studied for example, productivity so measured actually fell over the period 1946-50 to 1960-64.
2. Abercrombie [12].
3. Thiesenhusen and Brown [15] argue this point strongly for Latin America.

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striking differences in resource input for some important countries, which were in part a consequence of different policy preoccupations from one country to another.

TABLE V.6. LABOUR UTILISATION YIELD AND SELECTED INPUTS, PER HECTARE, 1960

Index numbers based on Japan = 100.

	1	2	3	4	5
Greece	21	21	100		
UAR (1961)	67	67	100		
India	33	10	29	1	27
Iran	89	n.a.	n.a.		
Israel (1961)	13	58	436		
Pakistan	33	14	41	2	78
Turkey	15	13	86		
Taiwan	80	50	62	76	102
Japan	100	100	100	100	100

Col. 1 : is agricultural labour per hectare of arable land.
Col. 2 : is yield per hectare of arable land.
Col. 3 : is yield per unit of agricultural labour.
Col. 4 : is the application of chemical fertiliser per hectare.
Col. 5 : is the proportion of irrigated to total cultivated areas.

Source : For Cols. 1, 2 and 3 see Ward [13] ; Cols. 4 and 5 are from Ishikawa [14], Table 2-7 ; his data relate to 1960-61.

The impact of the " Green Revolution "

At this point we should recognise that for agriculture in particular, prospects evaluated on the basis of past trends may be more misleading than is usually the case. Parts of Asia and scattered areas elsewhere have recently experienced and are continuing to experience the effects of a significant breakthrough in agricultural technology whereby new varieties, especially of rice, wheat and maize, offer opportunities to obtain considerable increases in output and value added over traditional varieties[1]. There is evidence too that the use of the new varieties in appropriate circumstances can spread extremely rapidly and that as compared with the period of the 1950s and early 1960s, governments are much more alive to the potential of development through agriculture. However, as Table 7 indicates, neither new varieties nor changes in agricultural policy have yet had a great impact at overall level, except in West Pakistan (where the figures shown are most recent) and the Philippines. (Thailand's recent experience owes more to other factors). Indeed, in several countries trends since the beginning of the 1960s seem less favourable than earlier[2].

1. See Brown [16] Dalrymple [17], Wortman [18] and Willett [19] for details and recent estimates of achievements and potential.

2. Provisional ECAFE figures [20] for 1968/69 suggest however more dramatic increases in output : for rice, 7.3 per cent in India, over 15 per cent in Indonesia, almost 6 per cent in West Malaysia, 27 per cent in West Pakistan and 14 per cent in the Philippines. Similarly wheat output is reported up by over 30 per cent in India and over 40 per cent in West Pakistan.

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TABLE V.7. RICE OUTPUT AND YIELD IN CERTAIN ASIAN COUNTRIES : 1950s AND 1960s

Annual rates of growth.

	Output	Yield
Ceylon :		
1950/52-1959/61	6.1	3.4
1959/61-1966/68	4.2	2.5
India :		
1950/52-1959/61	4.6	5.5
1959/61-1966/68	0.4	—0.4
Indonesia :		
1953/54-1959/60	2.0	1.6
1959/60-1966/67	1.1	0.9
West Malaysia :		
1948/52-1960/61	4.4	2.7
1960/61-1966/67	2.0	1.2
Pakistan — East :		
1950/52-1959/61	2.3	1.6
1959/61-1967/69	2.5	1.1
Pakistan — West :		
1950/52-1959/61	2.4	—0.2
1959/61-1967/69	7.4	5.0
Philippines :		
1952/54-1960/61	2.3	—1.0
1960/61-1966/67	1.9	2.3
Thailand :		
1946/47-1959/60	2.7	0.7
1959/60-1967/68	5.7	3.8

Source : UN Economic Survey for Asia and the Far East, 1969 [20].

The potential of the " green revolution " for employment and income distribution, especially in the longer term, are much less clear than the potential for increasing output. On the credit side, the package technology of new varieties, increased fertiliser input, more stringent pest and weed control, and controlled water input under which the doubling or tripling of yields will occur, does not seem particularly to raise the marginal return of capital inputs relative to competing labour inputs and does not contain systematic economies of scale in respect of land to the advantage of larger farmers. Estimates of the increase in labour input per unit of area cropped under new varieties are only available in scattered instances but are probably significant[1], although higher farm incomes also reflect sharp increases in

1. Fifty per cent more labour input is a figure often mentioned for rice, but much depends on the precise cropping technique adopted (the most labour intensive Japanese method, involving transplanting, is not always used with the new varieties and can be successfully employed with some traditional varieties) and the extent to which double cropping is possible. For wheat increases seem rather smaller : for example, the *1969 UN Economic Survey for Asia* [20] reports an estimate of one third increase in labour input with Mexican Wheat in India.

output per unit of labour input[1]. Perhaps the most important source of direct increase in manpower usage occurs through the reduction of seasonality in labour input because the shorter growing period for new varieties and their insensitivity to variation in daylight hours greatly extends the scope for double and even triple cropping where water is available throughout the year[2].

There are however more problematic features of the new technologies. Most important, they can be applied successfully only where irrigation facilities or exceptionally reliable rainfall conditions exist and this gives very great advantages to particular areas which in many cases are already relatively favoured. To some extent water requirement does work in favour of larger farmers because irrigation facilities like tubewells are usually viable only for at least medium size farms and sharing arrangements among smaller farmers can be difficult to set up. Other factors have also fostered quicker adoption among richer farmers ; in respect to access to credit and insurance against risk these groups are better placed and thinly spread agricultural extension officers can more easily reach ten large than one hundred small farmers. Some direct evidence of the differences in rates of response to new techniques is shown in Table 8 for a South Indian sample of rice farmers.

Government policy too has been directed largely to securing the potential output increase in the shortest possible time which leads to an emphasis on large farms where commercial output can be expanded quickest and to a permissive if not positively encouraging attitude toward the

1. Though again hard figures are difficult to supply partly because an enormous variety in yields is characteristic, both among new and old technologies. Wharton [21] reports the following figures from Survey data in the Philippines :

AVERAGE YIELDS OF IR-8 AND LOCAL RICE VARIETIES IN THE PHILIPPINES, DRY AND WET SEASONS 1966/67

Metric Tons per Hectare.

	$-SD_x$	$\bar{X}$	$+SD_x$
Dry Season :			
IR-8	3.24	5.86	8.48
Local variety	1,51	3,17	4,83
Wet Season :			
IR-8	2.59	4.49	6.39
Local variety	1.00	2.32	3.64

$\bar{X}$ = average yield.
SD_x = is yield at one standard deviation from the average yield.
Note that yield at the negative standard deviation for new varieties is above the *average* of the local variety.

2. Thus Kaneda and Ghaffar [22] report evidence for Pakistan showing an increase in labour utilisation very similar to the increase in cropping intensity resulting from tubewell irrigation. Taiwan is a well known case of high labour input based on extensive double cropping : the 1968 ratio of total crop area to total cultivated land was 188 (*Taiwan Statistical Data Yearbook 1968* [23]). In India according to Willett [19] only 13 per cent of the net sown area was double cropped. Willett also reports a survey estimating the potential land for multiple cropping under existing irrigation as less than 10 per cent of the total rice area of South and South East Asia.

use of labour saving equipment like tractors[1]. These features of the " green revolution " are likely to become more obtrusive if self-sufficiency and surplus appear as reductions in grain prices could cause absolute falls in living levels for growers outside the new technology[2].

TABLE V.8. RESPONSE TO IMPROVED SEED AMONG RICE FARMERS OF SOUTH INDIA 1965

	Improved seed		
	Innovators	Imitators	Non-adapters
Sample Numbers	(24)	(172)	(69)
Assets per capita (*rupees*)	22,535	4,326	2,976
Area cultivated (*acres*)	8.0	3.3	2.5
Percentage of cultivated area rented	26.4	54.7	79.8
Education of farmer (*years*)	9	4	2
Extension contacts (*score*)	6.4	3.1	2.0

Source : Shetty [21].

On the whole, however, neither the empirical information currently available nor a priori reasoning would support too pessimistic a conclusion. In particular, given time and resources, there seems no reason why further

1. Where double or triple cropping is possible there is a premium on cutting time spent in operations like harvesting and threshing and there is evidence that, rightly or wrongly, large farmers will prefer to pay some premium to escape working with large gangs of temporary labour. The mechanisation problem is discussed in general by Johnston and Cownie [25] and in relation to Pakistan by Kaneda [26] and Bose and Clark [27]; their findings suggest that tractorisation on larger farms is profitable mainly because imports under favourable tariff and exchange rates are cheap and grain prices high, and that tractors can reduce direct labour usage by as much as 50 per cent. Estimates of this order of magnitude are also found in some Indian surveys discussed in Banerji [28]; Banerji points out however that certain types of mechanisation at peak periods of labour usage can create a situation in which more labour is used at other times of the year. This however seems unlikely to apply to general purpose machinery like tractors. Some hypothetical calculations by Billings and Singh [29] of the effect of different levels of mechanisation in irrigated Punjabi wheat land are shown below.

Technique	Cropping index	Labour days per acre
1. Local varieties, Persian wheel irrigation	150	33.4
2. High yield varieties, otherwise ditto 1	150	42.5
3. Pump set irrigation, otherwise ditto 2	180	32.6
4. Thresher, otherwise ditto 3	180	25.8
5. Tractor, otherwise ditto 4	180	18.1
6. Reaper, otherwise ditto 5	180	12.1

2. Active promotion policies have included, as well as subsidies for various inputs, support prices for farm outputs. In some cases the la"er are considerably above corresponding export prices : the latest UN Survey for Asia [20] indicates some concern that price supports might become overly rigid. It may be noted here that the Japanese " success story " is proceeding at present under a regime of rice prices which are at about three times world market levels.

developments of technology (which are undoubtedly in prospect) could not favour poorer farmers or those with less adequate water resources. Furthermore, indirect employment effects resulting from the use of the new technology which are almost impossible to assess at the present time may be more important than the direct effects[1]. As rural real incomes rise, off farm employments in agro-allied industries and local consumption goods production should increase and diversion into, for example, vegetable crops or emphasis on quality grains (local varieties often attract higher prices than the new varieties[2]) may help the smaller farmers. But clearly much will depend on government policy especially in respect to pricing of resource inputs and output and the taxation of agricultural income[3]. The danger is that once mistakes are made resistance to subsequent revisions of policy is likely to be difficult to overcome.

While large farmers have probably enjoyed most of the benefit of the new technical developments the evidence on the whole also suggests that the failure of other groups to participate (which is by no means universal) can be traced to solid economic factors rather than to cultural or social inhi-

TABLE V.9. FARM SIZE, LABOUR UTILISATION AND YIELD IN SELECTED LATIN AMERICAN COUNTRIES

Index nos. based on Minifundios.

	Yield per hectare		Yield per Agricultural worker	Average size of farm
	Cultivable land	Farm land		
Argentina 1960				
Minifundios	100		100	1
Family farms	51	30	250	12
Large farms	49	12	622	269
Brazil 1950				
Minifundios	100		100	1
Family farms	80	59	291	7
Large farms	42	11	688	546
Chile 1955				
Minifundios	100		100	1
Family farms	47	14	165	23
Large farms	30	5	437	1549
Colombia 1960				
Minifundios	100		100	1
Family farms	90	17	418	9
Large farms	80	7	995	491

Source : The Economic Survey for Latin America, 1966 [34], based on CIDA surveys.

1. Johnston and Kilby [30] report provisional findings about off-farm employment and stress the considerable importance of small workshops producing and maintaining relatively simple agricultural tools in the Taiwan rural sector.

2. In the Philippines and elsewhere "quality" rice is reported to command a 20 per cent price premium over high yielding varieties. See Barker [31].

3. See Please [32] for a discussion of these issues; Please also emphasises the creation of credit institutions and effective channels for private savings in rural areas as important policy requirements.

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bitions or irrational conservatism : the new technology tends to underscore the importance of capital resources and associated variables[1] on the pattern and intensity of land use. More generally, the evidence is almost universal that large farm units are or have been relatively lightly exploited and exploited with significantly more capital intensive techniques. Table 9 illustrates the extreme situation prevailing in some countries of Latin America.

Concern that the rural poor benefit from a policy of agricultural expansion is justified not only on social or humanitarian grounds but because in many areas, perhaps particularly Latin America, such an improvement might significantly check the movement into cities.

Urban Drift and the Wage Issue

Some statistics of rural and urban rates of growth are shown in Table 10. While there is some overstatement in treating the difference in growth rates between rural and urban areas as due only to migration[2], there is little doubt that a movement of massive proportions has taken place especially in Africa and Latin America. In Latin America, recent ECLA estimates[3] put the urban proportion of the total population in 1969 at 54 per cent.

Table V.10. THE RECENT GROWTH OF URBAN CENTRES

	Percentage in urban[1] areas	Percentage decennial growth rates					
	1960	1940-50			1950-60		
		Urban	Rural	Urban excess	Urban	Rural	Urban excess
Africa	13	56	13	38	69	20	41
Asia[2]	14	52	17	30	51	20	26
Latin America	32	61	16	39	67	19	40

1. Urban areas with more than 20,000 inhabitants.
2. Excludes Mainland China.

Source : Urbanisation : Development Policies and Planning [36].

N.B. All figures designated " rough estimates " in the source.

There is, as well, some tendency for the largest cities to grow even faster, though statistically this is sometimes masked or distorted by boundary changes which occur irregularly so that the rapidly expanding suburban populations get left out or included all at once. Many such cities could

1. Like security of tenure among tenants and settled arrangements in respect to rentals. In favoured areas the opportunities provided by new technology have tended to put stress on traditional owner/tenant relationships and land prices have risen. See French and Lyman [33] and Brown [16].
2. The definition of city areas is often changed and areas formerly rural became urban so that fewer people move than is suggested by the figures. But using population census material Camisa [35] calculates migration to account for between two-thirds and one half of the total annual increase occurring between 1950 and 1960 for a number of Latin American capital cities. Those who moved were heavily concentrated in the 10-40 age group and this is probably true generally though the age range for migration is narrower in Asia and Africa.
3. Quoted in the *Economic Survey for Latin America 1968, op. cit.* Chapter II.

well be called migrant cities since typically over half the population is made up of those whose birthplace was elsewhere[1]. A striking characteristic of urban development ha. been the swift growth of squatter settlements on the fringes of the city proper[2], although the worst slums often remain inside the town.

Urban expansion on this scale undoubtedly imposes inescapable costs, the most obvious of which arise from needs to create and extend public health, water and drainage systems. These costs are however of secondary magnitude to those arising from services which *de facto* tend to get supplied in response to more effective urban political pressures, like housing, electricity, schooling, transport etc. The essential problem is that the costs of many of these facilities remain a charge on public funds because those who benefit are too poor to pay for them themselves. This would not be the case if the employment situation were such that jobs at satisfactory wage levels were generally available.

Some notion of the effect of rapid expansion on the structure of employment in urban areas can be gauged from Table 11 which indicates the enormous weight of service (including government) and commercial occupations. The size of these sectors is fully comparable with, if it does not surpass, the corresponding proportions in developed countries.

One qualification to these statistics worth mentioning is that the large often capital cities mostly reported are those in which government and commercial activities tend to concentrate so that in urban areas more generally, or in the group of secondary towns or cities, the proportion in industry and in agriculture may be bigger. Examples are large cities in India and all " urban " India, Colombo and Colombo District and Taipei and five main cities. Too little information is available about trends in employment structure in urban areas to be worth reporting.

Various explanations of the rural to urban movement have been advanced and it is highly probable that a complex of factors are involved. To begin with, as discussed in Chapter IV, there seems to be a considerable income differential in favour of towns and despite the rapidity of the urban growth rate very scattered direct evidence backed by a good deal of local informed opinion suggest that the differential has been widening. Also relevant is the tendency in many countries for real wages in the modern or organised sector to rise in particular at the unskilled end of the scale despite heavy open unemployment. Trends however are probably less important than the absolute earnings differential itself ; relatively small variations over time may matter little if the difference between rural and urban earnings is as high as 300 or 400 per cent.

The urban/rural earnings differential is a central feature of the sophisticated model of rural/urban migration presented by Todaro[3]. Todaro argues that the migration decision is determined by expectations of economic

1. However direct rural to big city movement seems less common than step-wise migration, from rural to small town, small town to larger town, etc. see Nelson [37] and sources quoted therein.

2. Manaster [38] quotes some recent estimates by Abrams of the proportions of squatter populations in certain cities : Karachi 33 per cent, Manila 20, Caracas 35, Santiago 25 per cent. For Peru, Turners' estimate (quoted by Manaster) of Lima's squatter population was 25-30 per cent and the absolute numbers involved were about 130,000 in 1958, 338,000 in 1962 and 500,000 in 1966.

3. Todaro 1969 [39] — see also Todaro 1968 [40] and Harris and Todaro, 1970 [41].

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TABLE V.11. THE STRUCTURE OF URBAN EMPLOYMENT

Percentages.

Cities or Urban areas	Date	Agriculture	Industry	Commerce	Services	Other[1]
Chile :	1966					
Greater Santiago		1	35	15	49	—
Colombia :	1967					
Bogota		1	37	19	42	1
Eight main cities		3	34	21	40	2
Mexico :	1960					
Federal District		3	39	18	39	1
Cambodia :	1959					
Phnom-Penh		4	21	27	46	2
Ceylon :	1963					
Colombo		2	15	25	48	10
Colombo District		5	25	19	42	9
China (Taiwan) :	1966					
Taipei		2	36	23	38	1
Five main cities		11	36	19	33	1
India :	1959/60					
Large cities[2]		2	35	20	41	2
All urban areas		11	36	15	31	3
Indonesia :	1961					
Djakarta Raya		5	25	24	46	—
Malaysia :	1962					
Kuala Lumpur		3	22	25	50	—
Philippines :	1967					
Urban areas		17	24	20	39	—
Singapore :	1966	4	27	24	45	—
Thailand :	1967					
Bangkok-Thon-Buri ..... (Municipal Areas)		2	33	27	38	—
Japan :	1967					
Tokyo		1	43	32	25	—

1. Not adequately described. We also include here the armed forces where these are included and identified in the data.
2. Bombay, Calcutta, Delhi and Madras.

Sources : See Appendix.

NOTES :
Agriculture includes fishing.
Industry includes mining, manufacturing, construction and public utilities.
Services include transport.
These definitions are not respected for all the data shown, but divergencies concern only minor categories like public utilities.

improvement which are formed on the basis of the ruling urban/rural earnings differential and the urban unemployment rate, the former in effect being discounted by the latter. Thus at a given earnings differential, migration stops when the change of getting an urban job (as indicated by the unemployment rate) is low enough to discourage workers still in the rural sector from moving. This seems a useful formulation and the model, after some simplification, yields some estimable parameters. But the emphasis on the direct influence of the wage differential and on the differential between modern urban earnings and traditional rural or urban earnings neglects certain possibly important aspects[1]. In particular, earnings in the urban traditional service and small workshop sectors, while they may be and probably are indirectly connected with modern sector earnings, could well influence separately the migrants decision[2]. Again, we need to know much more about the size of these traditional urban sector earnings and their relation to modern sector and agricultural sector wage levels. Many migrants too are probably influenced by the immediate security (and knowledge of the market) afforded by the presence of contacts already in the urban area and the evidence discussed in Chapter III suggests that migrants often move quickly into jobs after arrival. More indirectly still, the existence of a high wage modern sector itself provides the market basis for an extensive sub-structure of traditional services. There are large numbers of taxi drivers and shoe cleaners in part at least because there are large numbers who can afford taxis and shoes worth cleaning. Thus it is probable that job availability in the traditional sector is important.

One other important indirect effect already commented upon in Chapter II is the traditional obligation on the high income worker to support his relatives. Given the willingness to support relatives, the *ability* to support them in urban areas seems likely to be closely linked to earning levels of urban workers.

Finally, we note that even under the worst of urban unemployment rates there are several earners with jobs to every earner without a job. In rural areas, the occasions when help is most needed — in the pre-harvest period or following a bad harvest — are precisely those when the only people in a position to help are the professional money lenders. The apparent risk implicit in the migrant's decision may seem to the migrant to be more a kind of risk aversion.

Most of the possible indirect influences of the urban/rural earnings differential reinforce rather than counter the Todaro argument based on the direct effect ; most arguments suggest that if urban wages were reduced (relatively) migration would slow down. This (to slip momentarily into policy proposals) does not imply any judgement that reducing urban earnings is the best way to reduce the relative differential ; in fact policies to raise rural worker incomes might be preferred. If a good deal of work in the traditional urban sector does depend on the high incomes of modern sector workers then reducing these incomes could well *add* to urban unemployment

1. Peter Kilby, in a somewhat neglected article, considered many of these points, as well as the probabilistic interpretation of the earnings differential, as long ago as 1967. His analysis is related to the Nigerian context and includes a full discussion of policy implications. See Kilby [42].

2. Environmental elements in the urban/rural differential are often thought extremely important. Better educational and medical facilities, law and order, " bright lights ", etc. may apply to any urban group whether in or outside of the modern sector.

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in the short run. But the rate of decrease in migration following such a reduction in differentials may not, in any event, be very great both because the potential migrants' perception of the change in the situation is unlikely to be instantaneous and perhaps more importantly because expectations may relate to a horizon of earnings which is not short and which will therefore be little influenced unless a definite change in policy affecting urban wages is seen to persist.

The educated migrant in particular is likely to take the long view about earnings and there is some evidence to suggest that education is an important spur to migration[1]. There seems little doubt that the opportunities to realise a premium for educational skills have existed mainly if not entirely in the modern urban sector. The urban social structure also allows greater vertical mobility and the opportunities to acquire skills leading to higher incomes are much greater in urban areas. Finally, as mentioned earlier, the status of non-manual work is everywhere highly rated and non-manual occupations are also mainly urban occupations. It may be partly true for some African and Asian countries, as Lewis [44] argues, that the unemployment and urban migration of the educated are partly transitional phenomena having their origin in inflated expectations in regard to jobs and earnings which were formed on the basis of the situation obtaining before education is relatively widespread. The transition however may be long and difficult judged by Indian experience.

Capital intensity and high wages

In principle high wages act as an incentive to capital intensity and the few studies relating to this issue tend to show that high wage industries are more than usually capital intensive and that increasing capital intensity is associated with rising real wages[2]. In Africa in particular, where for a number of countries urban wages have risen rapidly, employment trends indicate negative or very slow positive rates of increase. Beside the direct influence on choice of technique, it is plausible that under fast rising wages, firms become more labour-cost conscious ; the phenomenon of featherbedding both in industry and government in less developed countries is reportedly widespread and if the reports are correct there is plenty of scope for cost cutting. Governments too, in sponsoring industrial or infrastructural projects often opt for a more capital intensive process than otherwise if labour costs are high (though the willingness of Aid donors to provide "free" machinery is a potent influence here).

1. Roussel [43] reports results of a 1968 village survey in the Ivory Coast. Of those born in the villages aged 15-29, some 33 per cent of males and 20 per cent of females had left the land; the rates by education level are shown separately below :

Education level	Percentage leaving village[1]	
	Male	Female
Illiterate	8	11
Literate	42	55
Primary School Certificate	61	75

1. Of age groups 15-29, excluding those still attending village school but including those who leave to continue their education.

2. e.g. Reynolds [45] and Harris and Todaro 1969 [46].

But a note of caution regarding evidence of this high wage/capital intensity phenomenon is suggested by our earlier conclusion that high productivity and profits will tend anyway to pull up wages ; this makes the estimation of the wage effect per se on employment difficult to measure and application of simple econometric methods — single equation least squares estimates for example — are likely to exaggerate it. Similarly, some increase in labour quality and productivity resulting from the development of on the job skills may also justify wage increases.

Employment and the Service Sector

We begin this section by taking up the argument of the last paragraph in relation to public services employment which constitutes much of the " modern " element in services and in some countries much of the modern sector itself. No general study seems to have been made of the constraining effect of high wages on the expansion of employment in the public sector or of the effects of wage changes[1], but except in rather special circumstances we would expect the constraint to be an important one if only because wages account for such a large share of the budget. Despite the views of many economists that government departments are already over-staffed views which may be justified in relation to low level white collar occupations) there are a number of public services whose extension would provides benefits and whose main cost is the addition to the wage bill. Similarly, public revenues absorbed by wage increases are not available for spending on, for example, labour intensive building programmes. The constraint of high wages on employment levels may therefore be more important in public services than in industry, especially in the short run[2]. Similar arguments apply to non-government organised service activities.

Having regard to the general importance of service employments in less developed areas (especially in Latin America), the paucity of relevant studies, either empirical or theoretical, is little short of astonishing. Even in Professor Myrdal's massive study of Asia, despite the emphasis on employment issues, one is hard put to assemble five pages from the total of over two thousand which deal directly with service employment.

The most direct cause of neglect is fairly simple : excepting the public sector component, and apart from the very shaky employment estimates themselves, there seems very little useable information and, in particular, almost none about output and productivity at aggregate levels.

The latter point deserves more discussion than it usually gets. It is well known that in the case of public administrative services, a normal procedure for estimating levels and trends of real output is to multiply numbers employed by a constant wage, with sometimes an adjustment for changes in " quality " as evidenced by any change in structure between higher and lower salary grades. It is perhaps not quite so clear that similar if somewhat more approximate procedures are applied elsewhere wherever superior estimates of real output are not available, as is very often the case for a wide range of service and commercial activities. To give one

1. One empirical study for Uganda, by Knight [47], does find an important negative effect of wage increases in certain sectors of public employment. But the Uganda situation was a very extreme one in that the rates of wage increase were enormous.

2. Berg [48] in a recent paper sets out a systematic framework for consideration of effects of changing public sector wage levels.

example, in India the method is reportedly applied to small scale industry, construction and professional services as well as to government administration[1]. This being so, it is all too easy to argue in a circle about estimates of productivity in services derived from estimates of output constructed on the basis of *an assumption* about productivity[2].

The rapid increase in employment in service type activities (including commerce, transport etc.) and the considerable size of the sector at comparatively low national income levels, have suggested an explanation which runs in terms of growing pressure from the supply side of the labour market rather than high income elasticities of demand for services. On balance we judge this argument to be broadly correct, but its correctness is not self evident and some qualifications to it seem worth considering. Firstly, in the few cases where detail is available, public sector employment seems broadly to have kept pace with the general growth of services. As previously mentioned, there may be a good deal of surplus manpower within this sector but a good part of this rapid growth is explained by the speed of the development of education, public health programmes, etc. A similar argument applies to certain (though in aggregate much smaller) groups in professional services outside the public sector like accountants. There are, however, some broader bases for argument in regard to private sector services. Galenson [50] in particular has advanced the argument that the indirect demands of industry for services are large and that therefore when industrial output grows strongly service employments will grow strongly as well. The point is worth closer investigation than it has received, but the direct demands of industry for services (excepting perhaps transport) seem limited especially if construction is taken as part of the industrial sector[3].

But as well as the direct effects on service employment of industrial expansion, which most of Galenson's argument is concerned with, there are indirect effects as well which are particularly relevant in the context of rapid urbanisation. Industry needs little land and this tends to concentrate both people and income relative to agriculture. Comparing industry with agriculture therefore, it seems likely that certain types of service will become more profitable under industrialisation because of the concentration of income and people it stimulates. There is presumably some minimum catchment area for a hospital, a secondary school, for a bank or a wholesale business. Even in regard to some administrative activities such as law and order the "greatest good for the greatest number" at given cost would also affect their provision. Thus while demand at the price may be no different between the countryman and the townsman, the greater density of townsmen will stimulate some service activities which would not otherwise be undertaken.

Our final point is partly statistical. We noted earlier that difficulties

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1. See Datta [49].
2. A study is currently in progress at the Development Centre concerning the procedures used in developing countries to measure the outputs of the service sector.
3. Since perhaps most people base their judgement that the *level* of service employment is high in developing countries on some comparison with developed countries, it might be worth examining whether or not size of industrial firm is related to a tendency to undertake services within the firm. It could be that in the small scale manufacturing important in less developed countries many of the services required are not supplied within the business and so get counted separately. If only operatives were counted in manufacturing, for example, it would probably be true that the boost to the size of the service sector would be a good deal bigger in developed than in developing countries.

in defining the agricultural labour force and in finding out how hard it was working arose partly because of the widespread tendency to pursue multiple activities in rural areas. Service activities tend not to appear in rural employment statistics because they are secondary activities. In urban areas, specialisation is more developed and many such " do-it-yourself " services are likely to be purchased from the service " specialists ". The point applies particularly perhaps to commercial activities.

For a number of reasons therefore, we would expect a more extensive development of services in urban and in industrial areas than in rural areas and we would expect services to expand when industry and towns expand. But the rate of expansion of services indicated by the current share of service workers in the urban employment structure (Table 11) seems a good deal higher than can be accounted for without appeal to the pressure of numbers argument.

Summary of the Policy Argument

Perhaps the main point emerging from the foregoing discussion is the prime importance of agricultural development for improved employment prospects. Agriculture employs most people and a prosperous agriculture would probably check the flow of people to the cities ; agriculture has been neglected in the past and there appears to be a solid foundation of technological advance on which to build considerable output and employment growth. To some degree, the by-products of a prosperous agriculture — broad based extra demand for food and services in rural areas and stimulus for agro-allied industry — should permit significant " spread " effects to other sectors.

For all these reasons therefore there is hope that past experience can be improved upon. Nevertheless, not all policies to stimulate agricultural output are equally good for increasing employment and there is a danger that policies will concern themselves too much with the larger farmers on the one hand and labour saving mechanical advance on the other. Here again there is a need for measurements which relate to the rural situation as a whole, including landless labourers and small, semi-subsistence farmers as well as the larger, fully commercialised sector. It is not difficult to see that certain sorts of agricultural policy would do little to help poor rural people or to slow down migration to the towns.

Quantitative Projections of Employment and Unemployment

It will be clear from discussion in this and the preceding chapters that projections of growth in employment and unemployment are hazardous in the extreme. We have argued that an important element among the openly unemployed usually consists of young people who act in response to earnings and job status differentials and seek specific types of occupations. The relative scarcity of new job opportunities in these fields may not be a simple consequence of the overall abundance of labour in relation to total output. On the other hand, there are vast numbers for whom open unemployment is not a viable option and who have somehow to obtain their living sometimes by working very long hours or very irregularly, for very little return. For the latter groups, the physical approach to employment adequacy — unemployment ratios or calculations of man-day deficiencies — may be less relevant than some construct based either directly on earnings or related to

earnings. The thrust of our argument is that where flexibility in earnings is characteristic of wide sections of the labour market, we should expect the response to a shortage of work opportunities to be felt largely through relative or absolute reductions in real wages for unskilled workers.

Again, the argument should not be overstressed ; our knowledge is very limited and it is easy to overgeneralise about the variety of existing situations in less developed countries. In many countries a significant fraction of unemployment is accounted for by people without special job preferences or inflated expectations. Those with such preferences and expectations find themselves disappointed in part because there are numbers of people, some of whom are pushed out from excessively crowded rural areas, who will take whatever wage is going, however low. Doubtless, the supply of jobs showing even the most modest improvement over current standards needs to be vastly expanded. In any event, it is likely, with increasing urbanisation, the extension of regulated working conditions and gradually increasing income levels, that poor employment prospects will " show up " to an increasing extent as open unemployment. This trend will surely be exacerbated if income disparities grow wider — and this is not unlikely to happen.

What all this amounts to is the proposition that our usual tool kit for projection work — output trends, productivity movements, trends in the supply of labour, etc. — are only partly applicable to forecasting unemployment rates and might be more useful in predicting income distribution variables or absolute levels of income at the bottom of the scale. To project measurable unemployment we need additional data and new models in which trends in wage differentials, the availability of education, urban and rural rates of growth, etc., are allowed to play some part. In any event, as we have tried to show, we have no more than elementary notions about existing unemployment levels, less than this for income distributions, and practically nothing quantitative about trends for either income distribution or unemployment. We are therefore very badly placed to make good projections and very well placed to make bad projections.

In the light of the above, the following calculations should be considered as purely illustrative ; indeed, what they illustrate is how little is known about the situation in overall terms.

If income and output per employed person continue to grow at the same rates as in the past, then employment will continue to grow at its past rate and so too, approximately, will income per capita. These conditions form a convenient starting point for discussion.

We take as base period 1950 to 1965 and as projection period 1965 to 1980. We have some information about past growth in output and about past and future growth in labour force : what is missing is an estimate for productivity growth, or, equivalently, the past growth rate of employment. We make two assumptions about this. Assumption A is that employment grew at the same rate in the past as labour force so that whatever rate of unemployment existed in 1950, the same rate existed in 1965. The effect of this assumption and the constant trend assumption for output is that the projected rate of unemployment increases only if the growth of labour force 1965-1980 is faster than it was from 1950 to 1965.

Assumption B is that unemployment grew over the period 1950 to 1965 by an amount which added 5 percentage points to the 1950 level.

The effect of this assumption is to produce a lower growth rate of employment over the whole period 1950-1980 and correspondingly higher rates of unemployment in 1965 and 1980. Assumption B is therefore " pessimistic " relative to Assumption A.

Output and labour force data can be obtained at the regional level and for all less developed countries taken together, but the regional rates for 1950-1965 indicate quite large differences in labour force and output growth from one region to another. Using these regional rates for projection according to the procedure set out above therefore produces differences in regional unemployment rates for 1980 which reflect the differences in past regional experience. It might be argued that some sources of difference from one region to another are transient or illusory (measurement error). We construct two sets of estimates, one based on purely regional experience and the other by applying trends obtained using the estimates for all less developed countries taken together. The results of the exercise are set out in columns 1 to 4 of Table 12. Column 1 corresponds to assumption A using regional estimates and column 2 using " world " estimates for past employment growth. Columns 3 and 4, regional and world rates respectively, embody the application of assumption B. All figures shown are calculated in terms of the *increment* to the rate of unemployment from 1965 to 1980. To obtain the full rate of unemployment in 1980, an estimate of the rate for 1965 needs to be added. If we assume that this rate was 5 per cent, total unemployment in all less developed countries in 1980 would be 12 per cent on the basis of assumption A, while if the 1965 rate was taken as 10 per cent and assumption B applied, column 4 gives us a total 1980 unemployment rate of 22 per cent.

TABLE V.12. HYPOTHETICAL INCREMENTS TO 1965 RATES OF UNEMPLOYMENT BY 1980

	Percentages of 1980 labour force				Required growth rate in output 1965-1980 to reduce 1980 unemployment to 5 per cent	Past Growth Rates[1]
	1	2	3	4		
All less developed countries	7		12		6.4	4.7
North Africa	19	15	23	16	7.7	3.9
Sub-Sahara Africa	3	6	8	8	6.0	4.1
West Asia	12	3	17	6	8.6	7.1
South Asia.....	7	7	12	8	5.8	3.8
East Asia	8	6	13	7	7.7	5.7
Middle America	7	12	12	14	9.2	5.8
South America	4	15	9	16	8.3	4.3

1. 1950/52-1964/66.

Sources : The estimates of labour force growth are shown in Table 5 of Chapter II and rates of growth of output for the period 1950/52-1964/66 are given in OECD *National Accounts of Less Developed Countries, op. cit.,* Chapter I. For assumptions see the text.

Alternatively, the estimates can be expressed in terms of the rates of growth of output from 1965 to 1980 which will be required if unemployment is to be kept to a specific level. Thus if unemployment is projected as 10 per cent by 1980 and if an object of policy were to reduce this to 5 per cent, then the rate of growth of employment up to 1980 will need to be increased.

Using the assumed relation between output and employment growth rates, we can turn the required growth rate for employment into a required growth rate for output. If the estimates of Column 4 plus 10 per cent for 1965 unemployment are to be reduced to 5 per cent the required growth rates for output are shown in the next to final column of Table 12.

An identical approach is followed by Oshima[1] for Asian countries ; Oshima calls the ratio of the rate of growth of output to the rate of growth of employment the income equivalent of employment growth ; elsewhere[2], Oshima calculates the ratio to have been as high as 7 in Japan and Taiwan during the 1950s and 1960s and as low as 1 in India and the Philippines over approximately similar periods[3]. This finding suggests, perhaps not surprisingly, that fast growth in output will tend to be associated with fast growth in productivity, so that a " straightforward " growth increasing policy to reduce unemployment is likely to be self-defeating. The flexibility in the ratio suggested by Oshima's findings might also be interpreted as casting considerable doubt on the whole approach. It will probably be clear to the reader that we share these doubts : it is very likely that productivity growth will adapt to an important degree to the labour supply becoming available simply because most people will have to have some work. Nevertheless, the rate of growth in real product required to prevent any decline in the rate of increase of output per person employed illustrates an important aspect of the problem, even if one does not believe that regional open unemployment rates of 15 or 20 per cent would emerge in practice.

It would be possible to refine the calculations of Table 12 somewhat in the interests of " realism " by taking official projections of future output growth (as distinct from past growth) and, in a few cases, by some approximation to past employment growth using census estimates. We believe, however, that the danger of taking too seriously the results of exercises so conducted outweighs their advantage : the fact of the matter is that we know very little about the employment/output relationship in less developed countries.

A more promising approach might be to begin from calculations relating to the modern sector and to examine the implications for the traditional sector of any need to absorb labour residual to modern sector requirements. We have not been able to do this except very approximately for want of the necessary data. However, for Latin America according to ECLA estimates, the non-agricultural goods and basic services sector accounted for 52 per cent of total output in 1965 and 24 per cent of total employment[4]. Assume that the output and productivity of this sector continue to grow at the 1960-1969 average rates. Under these assumptions employment in this sector would grow at 2.8 per cent per annum and the sector would account for about 57 per cent of total output by 1980. Given no change in the overall rate of growth of output (approximately 5 per cent 1960-1969), and that the total labour force grows at 2.8 per cent per annum, how much can productivity grow, in agriculture and services if employment in total is to grow at the same rate as the labour force ? The answer is only 1.3 per

1. Oshima *op. cit.*, Chapter III.
2 Oshima *op. cit.*, Chapter IV.
3. Oshima works with an average ratio for Asia of 3. The ratio for all less developed countries taken together as used in the calculation of Table 11 was very similar at 2.9.
4. " Basic Services " are Transport and Public Utilities. See the *Economic Survey of Latin America 1968, op. cit.*, Chapter II.

cent per annum for 1965-1980. The result would imply that the maximum permissible growth rate for agricultural productivity would be 1.7 per cent per annum, if real output per head in services is not to decline. No allowance for any reduction of unemployment by 1980 from initial levels is allowed for.

A study by Sabolo, referred to earlier in Chapter II, is the only other attempt we know of to project global estimates of employment and unemployment. Sabolo's procedure, while in some respects similar to the above, has a number of novel features. In particular, his calculations of the income equivalent of employment growth are estimated using regression analysis based on cross section income data, and he begins from base year estimates of regional employment which requires him to make regional estimates of base year unemployment. A particularly interesting feature is the calculation of separate income/employment growth equivalents for each main sector of activity (so that aggregate employment and hence unemployment projections are obtained by aggregating sectoral employment estimates)[1]. The work has considerable value as a pioneering effort but we have reservations both about the method used and some of the data constructions[2]. On the estimation of 1960 regional unemployment rates, there are clearly very few survey or useful census statistics for 1960 so that calculations of these magnitudes are inevitably largely guesswork in an area where guesses are not at all easy to make. Guesswork is often necessary in practical economic planning but it is hard to see that the justification of immediate policy application covers work of the type under discussion here ; our view of the evidence is that regional estimates of employment in 1960, excepting perhaps South Asia, are just impossible to make with any useful degree of precision for scientific work.

Very few case studies of employment possibilities seem to have been prepared in any detail at the country level, but what few there are seem uniformly pessimistic. All these studies use some variant of the output/employment approach we have discussed, frequently on the basis of more detailed appraisal of sectoral prospects and better data in respect of past output and employment levels[3].

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1. More precisely, Sabolo's forecasting equations take the form for each region :

$$\left(\frac{\overline{E}_{it}}{P_t}\right) = \lambda i \left(\frac{\overline{Y}_t}{P_t}\right)$$

where E_{it}/P_t is the ratio of employment in sector i to population and $(\overline{E_{it}/P_t})$ the proportionate inter-temporal change. Similarly, $(\overline{Y_{it}/P_t})$ is the proportionate change in income per capita. λi is the elasticity coefficient obtained by cross section estimates for each of i sectors. Given estimates of population over the projection period, and employment in the based period,

$$\left(\frac{\overline{E_{it}}}{P_t}\right) = \frac{\dfrac{E_{it}}{P_t} - \dfrac{E_{io}}{P_o}}{\dfrac{E_{io}}{P_o}}$$

enables calculation of E_{it} and hence via summation over the sectors, of aggregate employment for each region.

2. In particular, the choice of employment divided by population as a dependant variable seems likely to introduce some effects arising from cross country differences in participation rates which may have little to do with differences in income level.

3. A study recently completed at the Development Centre which breaks some new ground both in respect of methodology and emphasis on agriculture, is Stoutjesdijk and Thorbecke [51].

For Nigeria, Frank [52] has recently made calculations in some detail at sectoral levels of the prospective growth in non-agricultural employments up to 1972/73. With projected rates of growth of non-agricultural GDP ranging from 8 to 14 per cent per annum he estimates corresponding employment creation at somewhere between 2.5 per cent and 6 per cent per annum with an " optimistic " estimate at 4 per cent per annum. As the non-agricultural modern sector (mid 1960s) absorbs about 5 per cent of a labour force which is growing at 2.5 per cent per annum, it is implied that after 25 years less than 7 ½ per cent of the labour force would be employed in the modern sector and after 75 years still only about 15 per cent.

For Singapore, with relatively good and detailed data on employment, unemployment and prospective labour force growth, Oshima (*op. cit.*, Chapter III) has estimated the rate of growth in output required to absorb labour surplus at 17.2 per cent per annum between 1966 and 1977.

For Colombia, Zschock [53] projects growth in output and employment to 1980 on the basis of separate calculations for high productivity and low productivity components of GDP. He assumes that with GDP growing at 5.0 per cent per annum over the whole period, growth would be 5.4 per cent per annum in the high productivity sector and 2.5 per cent per annum in the low productivity sector. With no allowance for increase in productivity in the low productivity sector and a productivity increase of 2.8 per cent per annum in the high productivity sector, the projected growth for total employment is derived as 2.7 per cent per annum. Since the labour force is growing at 3.3 per cent per annum, " labour surplus " is projected to rise from an estimated 18.8 per cent of the labour force in 1963 to 27.3 per cent in 1980.

For Pakistan, Bose [54] calculates the prospective increase in the labour force 1961-1986 at 2.5 per cent per annum. Using development expenditure estimates from National Plan documents his most optimistic estimate for the prospective increase in non-agricultural employment 1961-1971 was a little over half the increase in the labour force, leaving the remainder to be absorbed into an agriculture already reputed to be heavily burdened with surplus labour.

Finally, estimates of the rate of growth of full time equivalent employment from the 1962 level were made for the Philippines by Ruprecht [55]. He calculates the number of years required to eliminate the 1962 labour surplus on the assumption that rates of increase in the labour force remain constant and that employment increases at the same rate as in the past. Depending on the precise method of calculating both the existing level and the trend in employment growth, the time periods needed range from 11 years to 25 years. As Ruprecht notes, however, the calculations are based on the 1956-1964 rate of increment to labour force which will certainly rise at least to 1975.

We conclude with a brief note on the intentions of policy makers in regard to their employment problems, as revealed in National Plan documents. Hsieh [56] has recently compiled data from the few Plans which feature quantitative employment targets. With very few exceptions, the conclusion emerging from a study of his figures is that policy makers have not been and are not yet fully conscient of the gravity of the situation. While in many cases total employment is projected to grow quite rapidly, in detail much of it is accounted for by estimates which seem either optimistic in

relation to past experience[1] or which rely a good deal on traditional small scale manufacturing services and agriculture ; the latter can often be interpreted to mean that little prospect for real improvement is envisaged. In a few cases, aggregate employment is even projected to grow more slowly that the labour force.

For most of these countries and others who make no quantitative estimates of employment growth in their Plans[2], there is little or no doubt that the employment issue will be of increasing importance in the coming decades. One might hope that the problems will vanish in the process of economic development but this, unfortunately, they seem very unlikely to do. Our own judgement of the situation is that employment policies will require in many countries a central rather than peripheral " priority " in development strategy and that, in consequence, employment must be accorded central importance in the Plan itself. But this is a judgement which each government or planning bureau must make for itself on the basis of an assessment of its own particular situation. A necessary preliminary is the collection of relevant information about the local situation and (as should be abundantly clear from this book) this remains to be done in most countries.

Since this is largely a study about facts and figures, it is not inappropriate that our final paragraphs should be used to emphasise this issue of statistical foundations and data collection. The gap in the literature between what is believed to be the employment situation in less developed countries and what is known about the situation remains extraordinarily wide. Consider a trivial example : the author believed he could cite thirty studies relating to the employment problem which mention the numbers of shoeshine boys on the street corners in the poor cities of the world as evidence of the seriousness of the problem ; he has yet to see *one* estimate for *any* such city of the numbers actually pursuing this occupation. More seriously, a surely considerable misallocation of resources (involving a good deal of aid finance) is implied by the contrast between the skills, experience, training and resources available to the numerous scholars and experts who add, subtract, multiply, divide, plot, index, regress or otherwise manipulate the available statistics, make reports and draw policy conclusions therefrom, and those who collect and assemble the data.

It is especially true in less developed countries, that the collection and assembly of good and reliable data relevant to employment problems cannot be made cheaply or without scarce inputs and time. But without such investment it is difficult to see how appropriate policies are to be formulated and, equally important, how the result of the policies implemented are to be assessed. Thus, if there is direct implication for aid donors in this book it is that they should be prepared to support on a bigger scale with finance and technical help those whose job it is to measure what is going on about employment in these economies ; all too often in our opinion time and money are being misallocated to elaborate comment and high powered analysis of incredibly inadequate source material.

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1. Like manufacturing in the Philippines, where employment was projected to grow at over 10 per cent per annum over the period 1963-1967. Labour survey data reported by the ILO suggest that the actual increase was only about half this figure.
2. To which number must now be added India; see the Fourth Plan [57].

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Appendix A

HISTORICAL EXPERIENCE OF EMPLOYMENT PROBLEMS

It is very hard to avoid a glance backward in time to the earlier experience of the now developed countries in any discussion of the structural problems facing developing countries today. Indeed, it is often instructive to do so, if only to point out differences in experience which may suggest how today's problems are more or less serious than those found in the past. But very little statistical information is available about the employment experience of the now developed countries during earlier phases of development on which to base any firm or general assessment of the magnitude of their problems. Since our main purpose in the study is to focus on such evidence, the discussion here will be brief.

We would have liked to set out our findings in relation to the five trends which were identified as particularly relevant indicators of the size of the employment problem in the developing countries today i.e., the growth of labour force, changes in employment structure, trends in income distribution, unemployment and urbanisation. However, we have not been able to find general indicators about unemployment and income distribution, so that most of what follows concerns population and labour force growth and structural change. Even so, most of the data used are very rough estimates often based on indicators or extrapolations rather than hard fact, although the statistics of some countries are better than others. The focus here is mainly on the nineteenth century, not because this is necessarily *the* most relevant period in the history of the developed countries but because very little data can be got at all relating to earlier periods. However, the nineteenth century is certainly a very relevant period to examine. During its course a number of countries experienced a marked acceleration in the rate of economic growth which was associated with profound structural change. Particularly important were marked shifts in the distribution of output and employment away from agriculture and toward infrastructure and industry. In many countries, relatively rapid population growth, sustained technical change, fresh impetus to the development of trade and movement in population from rural to urban areas also occurred.

The following description by an economic historian[1] about employment problems in pre-industrial England is perhaps suggestive of conditions at the beginning of our period in many European countries ; they seem fully comparable with those in many less developed countries today : " ... in

1. " Economic History and Economic Underdevelopment " by B.E. Supple in : *Canadian Journal of Economics and Political Science*, Vol. 27, November 1961, No. 4.

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early modern England the average productivity of the population was very low... As with backward nations today, the problem of poverty was aggravated by the relatively large numbers of unproductive people at both ends of the age scale, who had to be supported by those at work. More than this, however, was the fact that even the working part of the population was only intermittently employed. Firstly, in agriculture and industry, technology and economic organisation were both primitive and dependent upon natural forces for their continuous operation. And in fact the imperfections of market structure, combined with the effects of the weather on transportation and techniques induced constant interruptions in production and the demand for labour. Secondly, in addition to involuntary idleness, voluntary unemployment — a marked preference for leisure — was no less evident in the mediaeval or early modern economies than in some twentieth-century societies. Contemporaries were divided on the question of whether low or high wages would provide the best incentive to hard work, but the opinion that labourers took irregular holidays, working only a few hours daily, or a few days weekly, was sufficiently widespread to suggest the presence of a fair amount of fire near so much smoke... It would appear that seasonal underemployment existed in agriculture as a result of labour-intensive techniques and the rhythm of the rural year. Agricultural labour might well be in surplus supply for much of the year, but at such peak periods of demand as harvests the surplus would be absorbed, and men from other industries would be temporarily attracted to the farm."

Growth of population and labour force

Although in most developed countries there was no complete population census before the beginning of the nineteenth century, it is reasonably certain that population growth accelerated markedly just before the time of the industrialisation. Unlike previous experience, however, where similar spurts in population growth had been interrupted by bouts of high mortality, population growth in the late eighteenth and nineteenth centuries once begun, tended to be maintained. In England and Wales between 1771 and 1831 the population practically doubled[1]. In Germany, while the annual growth rates until the end of the eighteenth century are estimated at about 0.3-0.4 per cent per annum, over the nineteenth century the rate accelerated to about 1.2 per cent per annum[2]. In France, however, there was no increase in the rate of population growth ; the annual increase rate seems to have fallen from 0.5 per cent before 1770/80 to 0.3-0.4 per cent in the nineteenth century[3]. Compared with the rates of population growth of less developed countries today from 3.5 per cent in the Philippines, to 2.2 per cent in Burma[4] these nineteenth century rates are distinctly low. The only historical cases with rates of population growth comparable to those of the less developed countries today were the countries of migratory settlement, like the United States, Canada, Australia and New Zealand. In these countries population grew at annual rates close to 3 per cent in the nineteenth century.

1. See : *British Economic Growth 1688-1959, Trends and Structure*, Deane and W.A. Cole, sec. ed. Cambridge Unv. Press 1967.
2. See : *Das Wachstum der deutschen Wirtschaft seit der Mitte des 19. Jahrhunderts*, W.G. Hoffmann, Springer Verlag, Berlin, Heidelberg, New York 1965.
3. See : *La Population Française* Vol. 1, P.E. Levasseur, Paris 1889.
4. 1969 *World Population Data Sheet*, Population Reference Bureau, Washington D.C.

Labour force growth

Lower rates of population growth in nineteenth century Europe are associated both with higher participation rates and lower rates of growth of labour force than in todays developing countries. Table 1 indicates the rather higher rates of participation in the nineteenth century than in developing countries today (compare Table 1 of Chapter II).

TABLE A.1. OVERALL PARTICIPATION RATES IN GERMANY, FRANCE AND JAPAN

Per cent of total population.

Germany		France		Japan	
1849/58	44	1856	39	1878/82	53
1890/94	45	1876	44	1898/1902	56
1900/04	45	1896	50	1918/22	48
1910/13	46	1906	53	1928/32	46

Sources : Germany : *Das Wachstum der deutschen Wirtschaft seit der Mitte des 19. Jahrhunderts* W.G. Hoffmann, Springer Verlag Berlin/Heidelberg/New York 1965, Table 7, p. 35.
France : *La population de la France de 1700 à 1969* J.C. Toutain in Cahiers de l'ISEA Suppl. No 133 Jan. 1963 (Série AF No 3). Table 40, p. 120.
Japan : *The Growth Rate of the Japanese Economy since 1878* K. Ohkawa, Tokyo 1957, Table 3, p. 19.

Data on the size and growth of labour force are rather scanty for developed countries in the nineteenth century. But as Table 2 suggests, it is probable that only the United States had an annual rate of growth of labour force comparable to those prevailing today in less developed countries. (See Table 5, Chapter II). In Germany, Great Britain and Japan, and especially in France, labour force grew significantly more slowly.

TABLE A.2. ANNUAL RATES OF GROWTH OF LABOUR FORCE

Germany		*France*	
1860-1890	1.4	1820-1870	0.4
1890-1913	1.6	1870-1913	0.4
Great Britain		*United States*	
1870-1890	1.4	1850-1883	3.0
1890-1915	1.2	1883-1914	2.3
		Japan	
		1913-1937	1.0

Source : Derived from *The Conditions of Economic Progress,* C. Clark, MacMillan, London 1960, Tables XXI, XXIII, XXVIII, XL, pp. 123-196.

The distribution of the labour force

Table 3 shows the structure of activity, and changes in structure for countries where figures could be obtained. By comparison with Table 9 of Chapter II, we can see that Belgium and Great Britain were already towards the end of the nineteenth century possessed of employment structures

TABLE A.3. SECTORAL DISTRIBUTION OF LABOUR FORCE

	AGRICULTURE			INDUSTRY			SERVICES		
	Initial date	Terminal date	Change	Initial date	Terminal date	Change	Initial date	Terminal date	Change
	1	2	3	4	5	6	7	8	9
Great Britain :									
1801 to 1841	35	23	−12	29	39	+10	36	38	+ 2
1841 to 1901	23	9	−14	39	46	+ 7	38	45	+ 7
France :									
1866 to 1911	49	40	− 9	29	31	+ 2	22	29	+ 7
Belgium :									
1880 to 1910	24	18	− 6	39	50	+11	37	32	− 5
Germany :									
1849/58-1905/1909..	55	36	−19	25	38	+13	20	26	+ 6
Sweden :									
1870 to 1910	55	41	−14	12	30	+18	33	29	− 4
Italy :									
1871 to 1911	51	45	− 6	32	32	0	17	23	+ 6
United States :									
1840 to 1870	68	51	−17						
1870 to 1910	51	32	−19	25	32	+ 7	24	36	+ 12
Japan :									
1872 to 1925	85	52	−33	5	20	+15	10	28	+ 18
1925 to 1942	52	43	− 9	24[1]	34[1]	+10	24[1]	23[1]	− 1

1. Transport and communications are included in columns 4-6.

Sources : France and Germany, op. cit. Table 1, otherwise all figures are derived from *Modern Economic Growth : Rate, Structure and Spread* S. Kuznets, Yale Univ. Press, New Haven/London, 1966.

NOTE. Agriculture includes farming, fisheries, forestry and trapping ; industry includes mining, manufacturing, construction, light and power, gas and water. Services include transport and communication, trade, finance, personal, domestic, business, professional and government services.

unlike any of todays developing countries (with the exception of Argentina). By this time too, most of the other countries shown in Table 3 were towards the end of the range occupied by the richer (mostly Latin American) developing countries, in respect of labour force distribution. More significant perhaps than the low share in agricultural employment, is the tendency for the

TABLE A.4. SECTORAL SHARES OF EMPLOYMENT IN GREAT BRITAIN, GERMANY AND FRANCE

	Percentages of total employment		Percentages of non-agricultural employment					
	Agricultural	Non-agricultural	Mining Manufacturing	Construction	Transport	Commerce Banking etc.	Other Services	Unspecified
Great Britain :								
1821	29	71	56			19	25	
1841	23	77	45	6	5	14	24	6
1861	19	81	47	7	8	14	24	—
1881	13	87	43	8	8	17	24	—
1901	9	91	41	9	10	15	24	1
Germany :								
1849/58	55	45		55	2	12	31	
1878/79	49	51		57	4	13	26	
1885/89	46	54		59	4	13	24	
1895/99	40	60		60	5	15	20	
1905/09	36	64		58	5	17	20	
France :								
1856	52	48	48	8	4	15	25	
1866	49	51	49	8	4	15	24	
1876	49	51	54			20	26	
1886	46	54	39	9	4	20	28	
1896	45	5	45	7	7	15	25	
1906	42	58	43	8	9	18	24	

Sources : France and Germany ; *op. cit.*, Table 1 ; for Great Britain ; *British Economic Growth 1688-1959* P. Deane and W.A. Cole, sec. ed., Cambridge University Press 1967, Table 31.

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share of industry to equal or to exceed that of services. The strong exceptions are Japan between 1872 and 1925 (where the share of agriculture was also extremely high) and Sweden in 1870 ; but, in the latter case, the rate of change between 1870 and 1910 casts rather strong on the accuracy of the 1870 estimates. In contrast, Table 9 of Chapter II indicates that in very few less developed countries does the share of industry exceed the share of services (Iran, in 1966, is in fact the only example of this shown in Table 9). Almost universally the share of services is considerably greater than that of industry.

Table 4 provides more detail of the employment structure in the three main European countries, Great Britain, Germany and France. Data are presented in a fashion comparable to the data quoted in Table 6 of Chapter II. There is a clear difference in the proportions of non-agricultural employment in manufacturing and mining between the now developed countries in the nineteenth century and the developing countries today. The highest share of industry (including mining, manufacturing and public utilities) in non-agricultural employment quoted for the latter countries — 40 per cent for India in 1961 — is easily surpassed in all three European countries by the middle of the nineteenth century, a good deal earlier in Great Britain. Particularly noteworthy is the contrast with relatively rich Latin American countries like Argentina and Chile. Correspondingly, non-industrial sectors were a smaller proportion of non-agricultural employment in the three European countries. While the proportions in construction and transport were about the same, the proportion in commerce, banking, etc. and more especially the proportions in " other services " appears to be considerably higher in most of the less developed countries today.

Trends in nineteenth century employment structures

The main feature emerging from Tables 3 and 4 is the general tendency towards a decline in the share of agriculture, through it occurred at considerably different rates from one country to another. The most rapid decline is reported for Japan, the latecomer in the industrialisation process ; but, as is indicated by the data of Table 3, this slowed after 1925. In some less developed countries today however decline of the agricultural sector's share in total labour force is occurring more rapidly than in the nineteenth century (see Table 9, Chapter II).

There are considerable differences from one country to another in the rates of expansion of industrial and service employments indicated by the Tables in the nineteenth century. But it is possible to discern some centralising tendency toward equalisation with regard to the proportions of employment in industry and in services ; where initially shares of industry and services were far apart they tended to come closer (France, Sweden, Italy) and where they were already at similar levels they tended to remain so (Great Britain 1841-1901). An exception was Belgium with an important rise of employment in industry and a decline in services. It is noticeable that not everywhere did industrial employments expand more rapidly than services during the nineteenth century's growth period ; and in several countries expansion in services' employment was very considerable.

Table 4 illustrates the rather stable structure of non-agricultural employment in Great Britain, Germany and France. If anything, there was a slight tendency for the biggest subsector — manufacturing and mining — to

decline relative to commerce, transport and construction, while the share of the subsector " public and other services " was almost constant in Great Britain and France. The clearest trend, however, not distinguishable in the Table, is the decline in employment in domestic services : from 20 to 15 per cent of non-agricultural employment in Great Britain, from 20 to 9 per cent in Germany and from 13 to 9 per cent in France.

Trends in output

The growth rates of total product of the developed countries in the nineteenth century quoted in Table 5 are strikingly lower than those of many less developed countries today where annual increase rates (average from 1950/52-1964/66) have ranged from 6.1 per cent in Mexico and 5.5 per cent in Peru to 2.8 per cent in Algeria and 2.2 per cent in Morocco[1]. The only really fast developer by today's standards was Japan. Even rates of increase of per capita product during the nineteenth century were low by

TABLE A.5. ANNUAL AVERAGE GROWTH RATES OF TOTAL PRODUCT AND PRODUCT PER CAPITA

	Total product	Product per capita
England/Wales[1] :		
1700 to 1780	0.5	0.2
1780 to 1881	2.5	1.3
Great Britain :		
1861 to 1911[2]	1.9	1.1
France[2] :		
1810 to 1860	1.1	0.8
1860 to 1900	1.6	1.3
1900 to 1920	1.9	1.0
Germany :		
1851/55 to 1871/75[1]	1.6	0.9
1877 to 1912[2]	2.5	2.1
Italy :		
1861/65 to 1898/1902	0.9	0.3
Japan :		
1878/82 to 1903/07	4.2	3.2
1903/07 to 1933/37	4.5	3.2
United States[2] :		
1850 to 1883	2.4	−0.2
1883 to 1914	2.7	1.2

Sources : 1. Kuznets, *op. cit.*, Table 3.
2. Clark, *op. cit.* Table 2.

1. See *National Accounts of Less Developed Countries*, OECD Development Centre, 1968.

today's less developed countries' standards, despite more rapid population growth in these countries. Again, Japan is an exception with relatively high increase rates for both of the periods quoted in Table 5.

It is of some interest to compare absolute levels of per capita income though there are considerable reservations with respect to either nineteenth or twentieth century developing country calculations. For what the estimates are worth, however, most studies indicate a range in today's developing countries from perhaps 70/80 up to 700 to 800 US dollars per capita[1]. Rough calculations made on the basis of income levels today (in dollar terms) in developed countries discounted back using real output per capita growth indices suggest income levels in the middle of the nineteenth century of up to about 250 dollars (estimate for Great Britain[2]). Different bases might yield considerably different estimates, but it seems unlikely that these would put nineteenth century per capita income levels of today's developed countries outside the range spanned by 70 to 800 dollars.

While the relatively slow changes in labour force structure owe something to relatively slow rates of growth in total output, other factors were also important. In particular, the slow changes in the distribution of output, or equivalently a tendency for the major sectors to grow together[3].

The development of the agricultural sector

In all developed countries agricultural output seems to have risen before industrialisation began and continued to increase throughout the period of industrialisation. Table 6 provides an illustration for Great Britain, Germany and Japan.

Various factors account for the strength of agricultural development during these periods and the importance of them varied from one country to another. Considerable technical changes in agricultural production, associated with the introduction of new crops, the increasing use of fertilisers[4] and improvement of systems of cultivation were especially important, and these changes were often accompanied by changes in the structure of land ownership, in particular a movement towards bigger operating units. Some countries, however, were better placed than others to take advantage of these new possibilities. Thus, while there are many reasons why the economic history of Southern Europe was so much less successful than that of the North in the nineteenth century, it is certain that there was less scope for increasing agricultural productivity. The new root-crops and grasses were not suited to the climate of these regions and, in particular, there was no reserve of land like that provided by the open-field system. These regions were much more densely populated in relation to land resources than the Northern European countries[5].

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1. " Analysis of World Income and Growth, 1955-65 ", E.E. Hagen and O. Hawrylyshyn in : *Economic Development and Cultural Change*, Vol. 18, No. 1, Part 7, October 1969.
2. Derived from Deane and Cole, *op. cit.*, Table 4.
3. See Kuznets *op. cit.*, Table 3.
4. For example, data quoted by Hoffmann, *op. cit.*, Table 1, show expenditures (in constant prices of 1913) for fertilisers to have increased more than twenty-four times from 1850 to 1900 in German agriculture (and expenditures for other agricultural inputs quadrupled or tripled).
5. See : " Population Pressure, Industrialisation and Social Mobility " B.F. Hoselitz in : *Population Studies XI*, 2, November 1957.

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TABLE A.6. INDEX NUMBERS OF REAL OUTPUT

	Agriculture	Industry	Total Output
Great Britain :			
1760	=*100*	=*100*	=*100*
1780	109	110	114
1790	116	159	129
1800	123	216	171
1801/11	=*100*	=*100*	=*100*
1831/41	143	397	236
1861/71	210	964	453
1891/1901	258	2,708	1,200
Germany :			
1870	=*100*	=*100*	=*100*
1880	112	139	108
1900	173	327	234
1910	185	455	280
Japan :			
1888/92	=*100*	=*100*	=*100*
1899/1902	153	222	172
1908/12	177	290	226
1918/22	209	510	333
1923/27	222	630	430

Sources : — Great Britain : Deane and Cole, *op. cit.*, Table 4.
— Germany : Hoffmann, *op. cit.*, Table 1.
— Japan : Ohkawa, *op. cit.*, Table 1.

As many economic historians point out[1], there seem to be no cases of successful growth where unresponsiveness of domestic agriculture to increasing direct and indirect demand for its outputs was made good by imports of agricultural products. Even Great Britain and Japan did not begin to rely heavily on such imports until relatively late in their development.

It is not clear what part was played by labour substituting technical change in agriculture, but it is worth noting that the number of employed persons in agriculture began to decline only at a relatively late date, for example in Great Britain from about 1861, in Germany from 1910, and in France as late as 1921[2].

It is perhaps worth reporting in somewhat greater detail on the Japanese case where development has been comparatively recent, and where more data are available. It is especially interesting that Japanese agriculture has developed rapidly on a structure of land usage in which small holdings have continued to dominate : in 1878 the average farm size was 1 hectare and in 1962 about 0.8 hectare[3].

1. See, for example Historical Experience of Economic Development, H. J. Habbakuk in : *Problems in Economic Development*, Proceedings of a Conference held by the International Economic Association, ed., E. A. G. Robinson, MacMillan, London/New York, 1965.

2. See sources for Table 1 for France and Germany and for Great Britain : *Abstract of British Historical Statistics*, by B.R. Mitchell, Cambridge University Press 1962.

3. Source : " Le Développement de l'Agriculture au Japon moderne — portée de l'expérience japonaise ". *Etudes sur la planification agricole* N° 6, FAO Rome 1966.

It may also be worth indicating the growing importance of off-farm employment in rural areas during the period : rapid agricultural development seems to have provided an important base for growing labour intensive and small scale support industries sited in rural areas. Thus, from census data, in 1920 about 45 per cent of agricultural wage earners had a subsidiary employment while at the end of the nineteenth century the proportion was little more than 30 per cent. (Statistics of the Ministry of Agriculture show about 54 per cent of agricultural holdings were " part-time enterprises " in 1935). Very little mechanisation occurred during the period covered by Table 7, despite the substantial increase in labour productivity.

TABLE A.7. AGRICULTURAL DEVELOPMENT IN JAPAN

Index Nos.

Periods	Land Productivity	Labour Productivity	Number of workers	Input of Fertiliser[1] (constant prices)
1878-82	*=100*	*=100*	*=100*	*=100*
1898-1902	163	176	98	138
1913-1917	180	236	93	452
1923-27	181	261	88	751
1933-37	220	318	88	1,014

1. Including lime.

Sources : Fertiliser input : *Estimates of long-term economic statistics of Japan since 1868*, No. 9, *Agriculture and Forestry*, M. Umemura, S. Yamada, Y. Hayami, N. Takamatsu, M. Kumazaki, Keizai Shinposha, Tokyo 1966.

Other columns : " Le développement de l'Agriculture au Japon moderne — portée de l'expérience japonaise ". *Etudes sur la planification agricole* No. 6, FAO, Rome 1966.

The development of industry and services

Data on the distribution of output between sectors, while to be regarded as highly uncertain, suggest, when taken with data on labour force structure, that differences in sectoral productivity were less marked in the nineteenth century than in today's developing countries. In particular industry accounted for a smaller proportion of total output relative to its share of labour force, while agriculture was (relative to total product) somewhat more productive. Similarly, in dealing with trends, aggregate data at least suggest that industrial productivity rose somewhat less rapidly, relative to the rise in total productivity, than is the case in today's developing countries, though in almost all cases the share of industrial output increased at a faster rate than did the share of industrial employment[1].

We have already noted the variability in growth rates of service employment as well as some overall tendency for this sector to increase its share in employment ; on the whole service " output " grew rather less fast, though perhaps the most widely applicable statement is that service " productivity " kept roughly in step with the overall growth of output. As discussed earlier in Chapter V, such a tendency may owe more to measurement procedures

1. Data on output and employment shares shown in Kuznets, *op. cit.*, Table 3.

than to more fundamental factors, though the substitution of probably higher productivity occupations for domestic service is one important productivity increasing trend in services generally.

The capacity of industry to absorb relatively more of the much smaller growth in labour force during the nineteenth century is perhaps most clearly indicated by the employment structure of nineteenth century cities. According to Hoselitz[1] data, in many countries urbanisation was extremely rapid during the nineteenth century ; even so, data quoted for Germany, relating to cities of more than 100,000 inhabitants (in 1882), indicate that almost 50 per cent of the work force were industrial workers, and for cities between 20,000 and 100,000, the proportion was even higher. The contrast between these proportions and those for the cities of today's less developed countries quoted in Table 11 of Chapter V is striking.

1. " The role of urbanisation in economic development — some International Comparisons ", B. Hoselitz in *India's Urban Future*, ed., R. Turner, University of California Press, Berkeley, 1962.

Appendix B

MEASURABLE UNEMPLOYMENT FURTHER CONSIDERED

1. Differences in levels of open unemployment

Table 1 shows data relating (as nearly as possible) to unemployment in urban areas. It includes material already given in Chapter III, as well as what other statistics we have been able to gather. Where possible we have checked definitional concepts from the description (if given) in the primary source, but in many cases we have not been able to obtain the relevant documents ; it seemed more useful to present all the material rather than some selection of it, though clear cut cases where census concepts of unemployment were plainly unsatisfactory are left out.

On the whole, while different definitions do yield considerably different rates of unemployment, in the cases where it has been possible to study the effect of such differences (Trinidad and Tobago, Chile, Malaya and India at different times have provided statistics based on different concepts) the effect while striking, does not seem to be enormous. However, including the " not seeking " but " available for work " groups as unemployed might raise the overall rate by as much as 100 per cent (the effect is typically greater for women than for men). Inclusion or exclusion from the labour force of those working only one day per week, or those aged ten to fourteen, also introduces substantial but not, so far as we can judge, massive differences in the results. Thus, in our view, most of the wider differences in rates of unemployment shown by Table 1, (and narrower differences between cities within the same country) do probably correspond to real differences in open unemployment. Urban unemployment probably is higher in Ceylon than in India and lower in Lima/Callao than in Bogota.

As is rather heavily emphasised elsewhere, even genuine differences in rates of open unemployment in less developed countries cannot by themselves stand as an index of the " seriousness " of the employment problem ; nevertheless it should be possible to undertake some more systematic study of differences in levels of unemployment than we have made, at least in the very near future as survey results accumulate. It would be helpful for such an examination if definitions were aligned even more closely than at present and we have seen no good reason in either the theoretical or empirical literature why definitions should be different in different places. It is of course sensible to adopt a flexible approach and to test for sensitivity to definitional alternatives ; much idle speculation could be eliminated if this were done on a wider scale.

A difficulty in such a study is that much survey work is presented in rather inaccessible forms — mimeo documents and the like — which are

TABLE B.1. RATES OF UNEMPLOYMENT IN URBAN AREAS

		Total
AFRICA :		
Algeria	1966*	(26.6)
Cameroons	1964* (adult males)	4.6
Douala		—13
Yaoundé		17
Ivory Coast	1963* (adult males)	
Abidjan		—20
Ghana	1960	
Large towns		—11.6
Morocco	1960	20.5
Nigeria	1963* (population over 14)	
Large towns		—12.6
Tanzania	1965*	7.0
AMERICA :		
Argentina	1968*	
Greater Buenos Aires		—5.4
Cordoba		7.4
Tucuman		11.0
Bolivia	1966*	
La Paz		—10.5
Sucre		18.1
Cochabamba		17.8
Oruro		17.3
Santa Cruz		15.2
Potosi		11.9
Tareja		13.7
Chile	1969*	
Greater Santiago		—7.1
Conceptión-Talcahuano		11.0
Lota-Coronel		15.2
Colombia	1967*	
Bogota		—16.0
Barranquilla		18.4
Bucaramanga		9.8
Cali		14.9
Ibagué		13.1
Manizales		17.4
Medellin		14.5
Popayán		10.8
Costa Rica	1966/67*	
San José		—5.6
El Salvador	1961	
San Salvador		—6.6
Ecuador	1962	
Quito		—5.7
Guatamala	1964	
Guatamala City		—5.4
Guyana	1965	
Georgetown		—20.5
Honduras	1961	
Tegucigalpa		—7.8
Jamaica	1960	
Kingston		—19.0
Mexico	1963*	
Monterrey		—7.9
Netherlands Antilles	1966*	
Curaçao		—19.1
Aruba		16.5
Bonaire		9.5

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TABLE B.1. (*Cont'd*)

		Total
Nicaragua	1963	
Managua		—5.5
Panama	1966*	
Panama City		—8.4
Peru	1967*	
Lima/Callao		—4.2
Surinam	1964	10.0
Trinidad and Tobago	1967*	
Port of Spain		—18.0
Uruguay	1963	
Montevideo		—13.1
Venezuela	1969*	7.9
ASIA :		
Ceylon	1968*	14.8
China (Taiwan)	1968*	3.5
Hong Kong	1966	4.1
India	1966/67*	1.6
Indonesia	1961	8.5
Iran	1966	5.5
Malaysia (West)	1967*	11.6
Philippines	1967*	13.1
Singapore	1966*	9.1
South Korea	1966*	12.6
Syria	1967*	7.3
Thailand	1966*	
Bangkok/Thonburi		—2.8

Sources : Are described in Appendix C.

* Survey data ; otherwise census data are used.

extremely hard to get hold of and which therefore represent a considerable hurdle to the potential researcher. Possibly the ILO could usefully undertake a more systematic approach to the dissemination of the main results of such surveys together with discussion of definitional issues : a couple of issues of the ILO Review devoted to survey measurements in Latin America and in Asia would be very worthwhile.

As a minor contribution to the statistical analysis of differences in unemployment levels, it may be worth reporting that we have failed to find any close or systematic relationship between rates of unemployment and an index of labour market structure in urban areas. For the latter we used simply the proportion of self employed and family workers to the total of gainfully employed. The index is very crude and in particular fails to take account of differences in the importance of *paid* family employees. Clearly the effect of employment structure might show up in a multi-variable analysis or with more refined definitions. We looked at data for cities or urban areas in Colombia (eight towns), Chile (three towns), India (three urban strata), the Philippines, Tanzania, Singapore, Taiwan, Korea and Thailand.

2. IS OPEN UNEMPLOYMENT RISING ?

It is widely reported that open unemployment in urban areas is rising, and this is almost certainly true if the reference is to the *number* of unem-

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ployed. We are however, somewhat surprised by the generality and strength of belief that *rates* of unemployment are rising as well. While it is probably not too difficult to arrive as the conclusion that there is a lot of unemployment from causal empiricism and observation, it is surely very difficult to assess trends on this basis.

Statistical evidence about trends is, as indicated by Table 1 of Chapter III, extremely weak, but for what the available data is worth they show constancy in rates rather than any general tendency for rates to increase ; in some countries rates have gone up, but in others rates have come down. More irregular survey data rather confirm this impression ; thus while in Singapore rates have risen from 5.0 per cent in 1957 to 9.1 per cent in 1966 (for women separately from 5.8 per cent to 15.9 per cent), in Ceylon between 1959/60 and 1968 rates are constant (rural areas 14.3 per cent and 14.8 per cent, urban areas 10.0 per cent and 10.4 per cent), and in India urban rates seem to have fallen (from 2.4 per cent in the 16th round 1960/1961 to 1.6 per cent in the 21st round 1966/1967).

We do not wish to de-emphasize the importance of the open unemployment problem but rather to suggest that the facts and the absence of facts should be given due weight in statements which essentially relate to quantities. Its is too easy in the present climate of opinion to begin from an assumption that unemployment rates are rising, and to proceed directly to an analysis of policy solutions ; somewhere on the way the importance of finding out what is really happening seems somehow to get lost.

3. Unemployment and job aspirations : an African example[1]

One indirect but very interesting illustration of the possible importance of this point is provided by the following example.

In 1957 employment possibilities for dam building, to be followed by other industrial work, was announced in Brazzaville (Congo), the work to take place at Kouilou, some distance from the town, requiring that workers went to live there. Devauges conducted interviews among the considerable number enquiring about these work possibilities and was able to draw together a number of useful observations. More directly relevant, at virtually the same time in Brazzaville a more general enquiry into unemployment was also conducted, and the comparison of Devauges' results with those of this enquiry is interesting. In particular, there are considerable differences between those classified as unemployed in the general survey and those who made enquiries about work at Kouilou (see page 137).

The obvious implication of these findings — that the young literate unemployed are much more choosy about the work they are prepared to do — is qualified to some extent by the way in which the data were gathered. In particular, the general survey was especially concerned with the problem of youth unemployment and this may have exaggerated the response of young people. Nevertheless, it is striking that young people seem particularly reluctant to obtain jobs away from the town when a priori one would expect the difficulty of moving to be greater among older workers. This observation can be checked directly from the detailed analysis of the Kouilou sample. Of the total interviewed, some 75 per cent were found to be willing to move

1. R. Devauges, " Les Chômeurs de Brazzaville et les perspectives du Barrage du Kouilou ", *Cahiers ORSTOM, Sciences Humaines* nº 2, ORSTOM, Paris 1963.

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to Kouilou for work, while among those under 21 the proportion was only 63 per cent[1] ; married workers were also more willing to move than those without dependants.

	General Sample	Kouilou Sample
	Brazzaville unemployed	
Age distribution :		
Less than 21	66	22
21-25	19	29
26 and over	15	49
	100	100
Educational experience :		
Illiterates	22	68
Intermediate (to grade CE2)	32	9
Higher levels	46	23
	100	100
Work experience :		
None	49	8
Operatives, tradesmen, etc.	36	78
Houseworkers	5	—
Employees	10	14
	100	100

4. Urban unemployment in India

India has conducted surveys of employment and unemployment since the mid- 1950's and urban India constitutes a very large fraction of all urban areas in less developed countries. But the survey estimates have been widely criticised mainly on grounds that they are " too low " to be representative. The criticism often takes the form simply not reporting the Indian estimates in general discussion of the " size " of the employment problem ; it is certainly difficult to describe as " massive " an open unemployment rate of around three per cent.

We argue here that there is, in fact, no solid foundation for the view that Indian statistics are any more suspect that those of other countries, but that there are certain particularities about the Indian approach which do tend to produce rather low rates of unemployment.

Most quoted sample estimates refer to " All urban India " and there is reason to believe that the sampling frame for these estimates include areas which are probably only semi-urban. Data are, however, published for separate urban strata, though the publishing delays are extraordinarily long ; the latest available detailed set of statistics, for the 15th Round — July 1959/ June 1960 was not published until 1969.

In Table 2, urban stratum I consists of Bombay, Calcutta, Delhi and Madras, Urban stratum II consists of all cities with populations of over

1. Devauges, Table 13.

300,000 and Stratum III accounts for other areas classified as urban. Differences between Strata I and II on one side and Stratum III on the other are quite considerable :

TABLE B.2. CHARACTERISTICS OF URBAN STRATA : 15th ROUND
1959-1960

	Stratum I	Stratum II	Stratum III	All Urban India
Percentage of Agricultural workers (employed population)	1.6	3.0	20.1	15.5
Percentage of unpaid family workers	5.6	7.0	13.0	11.3
Percentage of paid employees	69.3	58.8	47.3	51.4
Participation Rates :				
Male	59.9	51.5	51.3	52.3
Female	7.4	9.1	13.7	12.4
Unemployment Rates :				
Male	6.5	5.2	4.6	5.0
Female	6.3	6.6	6.7	6.7
Total	6.5	5.4	5.1	5.3
Unemployment Rates of workers aged 15-21 :				
Total	22.2	16.4	11.5	13.1

The implication of Table 2 is that by taking larger urban areas separately, the rate of unemployment is likely to increase relative to the unemployment rate based on All Urban India. Rates quoted in Chapter II often do refer to single large towns or groups of towns, and Table 11 of Chapter V also suggests that the definition or urban India is unusually broad. It is particularly worth noting that the rate of unemployment in the large tows as shown by the 15th Round while still " low " by South Asian standards[1] is not " unbelievably low " at 6.5 per cent.

TABLE B.3. RESULTS OF THE 15th AND 16th ROUNDS ALL URBAN INDIA

	15th Round	16th Round
Percentage of Agricultural workers (of employed population)	15.5	16.6
Percentage of unpaid family workers	11.3	10.1
Percentage of paid employees	51.4	53.0
Participation Rate :		
Male	52.3	52.6
Female	12.4	13.9
Unemployment Rate :		
Male	5.0	2.5
Female	6.7	2.2
Total	5.3	2.5
Unemployment Rate, labour force aged : 15-61, 15-59 :		
Male	5.0	2.6
Female	6.8	2.4
Total	5.3	2.6

1. Though not in relation to Bankok and urban areas in Taiwan.

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Next we consider the vexed question of defining the labour force, the employed and the unemployed. Table 3 compares some results from the 15th and 16th sample Rounds.

Definitions used in the 16th Round were different from those applied in the 15th Round (and 16th Round definitions seem to have been applied in later rounds).

Firstly, from the 16th Round the " Unemployed " include only those aged between 15 and 59 while the labour force includes all age groups. Hence the unemployment rate for 15-59 is more relevant for comparative purposes. However, this adjustment makes very little difference (see Table 3).

The more important difference between 15th and 16th Rounds is probably that in the 15th *any* amount of work done (however nominal) was sufficient for inclusion in the employed labour force and any amount of work sought on the part of someone not working at all was sufficient for inclusion as a member of the unemployed labour force.

In the 16th Round, full time work on at least one day was the criterion for an employed person and, more important, seeking *full time* work was the criterion for an unemployed member of the labour force. Lastly, and perhaps in practice most important, in defining the unemployed the emphasis changes from " available for work " in the 15th Round to " seeking work " in the 16th Round.

The importance of this difference at the " All Urban India " level cannot at present be checked, but a State Government survey for Kerala, in 1965, provided some data which suggests that the distinction is certainly an important one.

TABLE B.4. UNEMPLOYED WORKERS; KERALA, 1965

Percentage of labour force[1].

	Male	Female	Total
Seeking Work	3.6	5.5	4.2
Available for work but not seeking	3.5	8.4	4.9
	7.1	13.9	9.1

1. Labour force at work and seeking work.

Source : A Comprehensive Scheme for Employment Creation and Unemployment Benefits, Economic Division, State Planning Board ; Kerala (mimeo).

These changes could probably account for most of the differences recorded between the 15th and 16th Rounds, but it is worth noting that the changes made would lead us to expect some fall in measured participation whereas in fact, measured participation seems rather to have risen between the two rounds.

While in many respects the definitions used in the 16th and subsequent rounds are arguably better than those used in the 15th Round, the effect of including all workers at work for one day or more as employed and on the other hand including as unemployed only those seeking full time

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work seems very likely to pull the rate of unemployment in a downward direction. To a certain extent we can make a rough adjustment to take account of the particular feature, since in the 17th Round data on days worked are included. Suppose we assume (*a*) that all those working less than 3 days are looking for full time work and include them among the unemployed or (*b*) that this working group is not looking for additional work but should instead be defined out of the labour force because they are only part time workers. The effect of assumption (*a*) would be approximately to raise the unemployment rate from 3 per cent to about 5 ½ per cent ; but assumption (*b*) would raise the rate by less than ½ a percentage point.

Alternatively, as indicated in Chapter III, we can calculate the equivalent unemployment rate of involuntary underemployment. In the 17th Round, about 94 per cent of the employed population were not available for extra work ; the remaining 6 per cent were distributed over a range of extra hours worked from 1 to 56 hours ; if we assume that 40 hours represents full time work the amount of extra work wanted can be roughly estimated to be equivalent to 2 per cent of the employed labour force.

Briefly summarised, our argument is as follows : beginning from an all Indian urban unemployment rate of around 3 per cent in the 16th Round, it is possible by (*a*) excluding small urban or semi-rural areas, (*b*) including as unemployed those " available " as well as those " seeking " work and (*c*) including as unemployed involuntarily underemployed workers, to arrive at a rate of urban unemployment for India which could be perhaps 8 or 9 per cent. Put differently, our judgement is that within the conventional definitional framework usually applied in developing country surveys, 9 per cent is about the *maximum* rate which could have been obtained in the 16th Round and a 6 per cent estimate is perhaps nearest to the truth of the matter. This does not of course, mean that higher rates could not be " justified " by, for example, adjustment to the very low participation rates among women ; but such adjustments would need to be made for many other countries as well, including countries where measured urban unemployment seems a good deal higher than it is in India.

Between the 16th and 22nd Rounds, with unchanged definitions, urban unemployment rates have fallen to about 1.6 per cent ; applying more generous definitions to these later figures seems unlikely to raise the overall rate to more than perhaps 4 per cent.

Appendix C

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1.5	4.2	4.1	3.7

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